

USSR

BABAYEVA, A. Kh.; SULTANOV, F. F.; SEREBRYAKOV, Ye. P.;  
TODRIS, I. I.; STEFANOVSKAYA, N. V.; YELDASHEV, A. Ye.

Ashkhabad, Voprosy fiziologicheskikh mekhanizmov adaptatsii  
organizma k zharkomu klimatu, (Aspects of the Physiological  
Mechanisms of Adaptation of the Organism to a Warm Climate),  
"Ylym," 1970, 172 pp

Translation:

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USSR

BABAYEVA, A. Kh., et al, Voprosy fiziologicheskikh mekhanizmov adaptatsii organizma k zharkomu klimatu, "Ilym," 1970, 172 pp

The content of free amino acids in the blood plasma  
of humans and animals in the hot climate of  
the Turkmen SSR

136

Compensatory-adaptive reactions during the con-  
striction of the aorta in a hot climate

145

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USSR

UDC: 621.372.85

SEREBRYAKOV, Yu. I., CHURKIN, V. I., CHELISHCHEV, N. N.

"Raising the Average Power Level of Ferrite Limiters"

Elektron. tekhnika. Nauchno-tekhn. sb. Ferrit. tekhn. (Electronic Technology. Scientific and Technical Collection. Ferrite Technology), 1969, vyp. 5(22), pp 84-87 (from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11B161)

Translation: Data are given from an experimental study of high power level ferrite limiters which utilize the principle of auxiliary absorption during transverse magnetization of a polycrystal specimen. The ferrite limiters are made in the form of a series of stages (usually two or three), where the first stage takes most of the heat load. The limiter designs make for milder thermal conditions in the ferrite, which makes it possible to raise the maximum permissible level of the average input power. The advantages and disadvantages of the given limiters are discussed by comparison with the conventional Yubele [transliterated from the Russian Юбеле] limiter. Five illustrations, bibliography of two titles. Resumé.

USSR

UDC 624.131+539 215

SOKOLOVSHIY, S. V. and SEREBRYAKOVA, A. A.

"A Comparison of the Methods of Calculating the Stability of Slopes of Rock-Fill Dams with Central Plastic Cores"

Moscow, Vses. konf. Metody opredeleniya napryazh sostoyaniya i ustoychivosti vysokonaporn. gidrotekhn. sooruzh. i ikh osnovaniy pri statich. i dinamich. nagruzkakh. Tezisy dokl. (All-Union Conference on Methods of Determining the Stress Condition and Stability of High-Pressure Hydraulic-Engineering Structures and Their Foundations Under Static and Dynamic Loading, Thesis Report, Collection of Works), 1972, pp 348-351 (from Referativnyy Zhurnal -- Mekhanika, No 4, 1973, Abstract No 4V809 by G. A. Lipson)

Translation: The conditions of equilibrium of a central plastic core of a rock-fill dam under the actions of a system of forces are considered: the hydrostatic pressure of water is  $P_r$ , the active pressure of the upper prism is  $E_a$  and the passive resistance of the lower prism is  $E_{\pi}$

$$P_r + \max E_{ax} \leq \min E_{\pi x}$$

The coefficient of safety in this case is determined from the expression

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USSR

SOKOLOVSHIY, S. V. and SEREBRYAKOVA, A. A., Vses. konf. Metody opredeleniya napryazh sostoyaniya i ustoychivosti vysokonaporn. gidrotekhn. sooruzh. i ikh osnovaniy pri statich. i dinamich. nagruzkakh. Tезisy dokl, 1972, pp 348-351

$$K = \frac{E_{\pi} \cos \delta_{\pi}}{P_r + E_a \cos \delta_a}$$

where  $\delta_{\pi}$  and  $\delta_a$  are the angles which are formed with the horizontal plane of force  $E_{\pi}$  and  $E_a$ . On the basis of a comparison of the proposed method of calculation with existing methods an advantage is demonstrated for the method considered, including a large safety stability (lower value of the safety factor).

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USSR

UDC 669.295.41

SEREBRYAKOVA, A. V., LEBEDEV, G. N., STARSHENKO, V. I., BAKHIREVA, L. D.

"Studies on Obtaining Titanium Tetrachloride Purified from Vanadium"

Tr. In-ta metallurgii. Ural'sk. fil. AN SSR (Works of the Institute of Metallurgy. Urals Branch of the USSR Academy of Sciences), 1970, vyp. 22, pp 23-27 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G231)

Translation: Purification of  $TiCl_4$  with respect to V is possible in a condensation system by introducing  $H_2$ , S or  $H_2$  and S simultaneously. Purification is most complete with a S to  $H_2$  ratio close to stoichiometric for  $H_2S$ . At a temperature of  $200^\circ$ , the interaction of  $VOCl_3$  takes place with the formation of  $VOCl_2$ , and at  $500^\circ$ , with the formation of  $VOCl$ . The article contains 1 illustration, 4 tables, and an 8-entry bibliography.

- END -

5915

CSO: 1842-W

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- 89 -

AA0043409

UR 0482

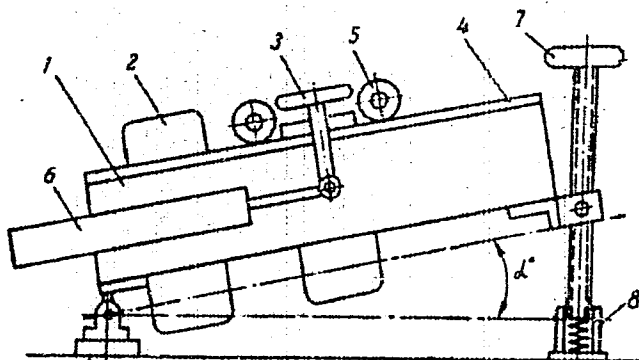
Soviet Inventions Illustrated, Section II Electrical, Derwent,

241519 TRANSFORMER WITH MOVING COILS provides improved current stabilization. In nominal condition the moving coil stays in its intermediate position. If the input voltage changes the moving coil (3) is driven to another position but due to friction it does not attain the required position and the load current will deviate from the required value. A corrector is introduced which acts as a mechanical feedback (8) to reduce the effects of friction. When the moving coil is driven upwards the torque at the hinge increases but due to the corrector angle  $\alpha$  is reduced whereby the moving coil is driven slightly further which results in achieving the correct current level. A 4 kVA experimental model achieved 100% stabilization of current at an input voltage variation of  $\pm 20\%$ .

3.1.66 as 1047538/24-7. E. N. SEREBR/ANOV (19.9.69) Bul 14/18.4.69. Class 21d. Int.Cl.G 05f.

19761705

AA0043409



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USSR

UDC 621.793.5:669.718.65

AKSENOVA, E. V., SEREBRYAKOVA, I. B., ANAN'INA, L. A., and GANSH, T. N.

"Hot Aluminizing of Sheet Steel"

Moscow, Stal', No 9, Sep 70, pp 830-833

Abstract: A good aluminum plating with a thin brittle layer of inter-metallic compounds ( $\text{Fe}_2\text{Al}_5$ ) may be produced by plunging low-carbon sheet steel into an aluminum melt containing 6-8% Si at temperatures of 700-710°C. Various methods of preparing the steel surface for aluminizing are discussed. A first processing in the regenerating atmosphere and elimination of the oxides by annealing in a hydronitric medium, provides a high-quality plating. Aluminizing improves the heat resistance of steel and greatly increases its corrosion resistance. Data of the corrosion resistance of low-carbon steel in various media are shown in comparison with the corrosion resistance of galvanized steel. The aluminum plating maintains a constant appearance with heating up to 500°C.

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USSR

UDC 542.941.661.718.1

CHUMACHENKO, M. N., and SEREBRYAKOVA, I. F., Institute of the Natural Products Chemistry, Academy of Sciences USSR

"Reduction of Phosphorus to Phosphine in Organic Compounds by Means of Lithium Aluminum Hydride"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 10, Oct 71, pp 2314-2316

Abstract: The reduction of organophosphorus compounds with lithium aluminum hydride is selective and cannot be used for a general analysis of phosphorus. Reproducible results were obtained only after the solution of lithium aluminum hydride was centrifuged and filtered in a stream of nitrogen prior to its use in the reaction. Reduction of triphenyl phosphate, p-bis (diphenylphosphoryloxy)benzene, and of diphenylchlorophosphonate -- all compounds with P-OC<sub>6</sub>H<sub>5</sub> and P-Cl bonds goes fast and is quantitative in regards to the formation of phosphine. However, reduction of tributylphosphate and sodium dibenzylphosphate is sluggish and even with heating is not quantitative, unless the material is heated to 200°C. Even under these conditions the triphenyl phosphine is not reduced.

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USSR

UDC 547.2.9.3+541.49

SEREBRYAKOVA, N. V., YEGOROVA, I. G., and TYURENKOVA, G. N.

"Synthesis of Complexing Compounds. Ethylenediamine- $N,N'$ -di- $\beta$ -ethanesulfonyl- $N$ -carboxymethyl- $N'$ -methylphosphonic Acid (EDSUP)"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 8, Aug 71, pp 1812-1815

Abstract: Continuing their work on the synthesis of complexing agents and the study of their chemical properties, the authors synthesized ethylenediamine- $N,N'$ -di- $\beta$ -ethanesulfonyl- $N$ -carboxymethyl- $N'$ -methylphosphonic acid (EDSUP) and determined its dissociation constants by the potentiometric method. It is shown that replacement of a carboxymethyl group in the molecule of ethylenediamine- $N,N'$ -di- $\beta$ -ethanesulfonyl- $N,N'$ -diacetic acid (EDES) by the methylphosphonic group increases the stability of the resultant complex compounds. EDSUP is superior to EDDES in complexing efficiency, but forms complexes less stable than those of EDTA. The authors thank I. YA. POSTOVSKIY for his advice and interest in the work.

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USSR

UDC: 621.317.335.3

SEREBRYAKOVA, S. G., CHERNOUSOVA, N. I.

"Effect of Radiation And the Transforming Properties of the Holder on the Accuracy of Ferrite Permittivity Measurements"

Tr. Sib. NII metrol. (Works of the Siberian Scientific Research Institute of Metrology), 1971, vyp. 12, pp 77-82 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6A304)

Translation: The paper discusses errors in ferrite permittivity measurements due to the radiation and transforming properties of the holder. Formulas are presented for calculating the permittivity of ferrites from the change in oscillator frequency with regard to these errors. Resumé.

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USSR

UDC 531.43.621.791.92

ORESHKIN, V. D., SVETLOPOLYANSKIY, V. I., and SEREBRYAKOVA, T. I., (Institute of Materials Science Problems, Academy of Sciences, Ukrainian SSR)

"Study of Wear Resistance of Surfaces Hard Faced with Borides"

Poroshkovaya Metallurgiya, No 3, Mar 71, pp 78-82

Abstract: High-alloy hard faced layers formed of the borides of titanium, chromium, and tungsten were studied, as well as titanium-chromium diboride with a molar ratio  $TiB_2$ ;  $CrB_2=4:1$ . All of the coatings were subjected to x-ray phase analysis. X-ray analysis indicated that the initial powders consisted of titanium diboride, a dual titanium-chromium diboride, a mutual solid solution based on  $TiB_2$  and chromium diboride, a mixture of the phases  $CrB_2$  and  $Cr_3B_4$ , as well as  $W_2B_5$ . The boride facings have excellent use properties resulting from the exceptionally high alloying ability of the facing layer, produced by introducing several refractory components which have different influences on the general properties of the alloy but give it an excellent structure.

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USSR

UDC 539.3.01

UZDALEV, A. I., SEREBRYAKOVA, L. M.

"Stress State in an Elliptical Plate With an Opening in the Presence of Heat Exchange With the Medium"

V sb. Raschet prostranstv. sistem v stroit. mekh. (Calculation of Three-Dimensional Systems in Structural Mechanics -- Collection of Works), Saratov, Saratov University, 1972, pp 150-154 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V69)

Translation: The thermoelastic stressed state of an isotropic plate free of volumetric and surface loads and weakened by a circular opening is considered. The nonuniform heating of the plate is determined by the given constant, but different temperatures at the edges surrounding the plate. Independence of the mechanical and thermophysical characteristics of the material from temperature is assumed. Known functions (temperature and stress-state components) are given in the form of series of certain structures based on powers of the parameter characterizing the ellipticity of the external contour of the plate. Numerical results are given. I. A. Motovilovets.

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USSR

UDC 621.372.25

SEREERYANKOVA, V. G., and SHERGINA, Z. A.

"Results from a Study of the Conditions for the Propagation of Meter Waves over Distances of 640, 440, and 280 km"

Moscow, Elektrosvyaz', No 11, 1970, pp 23-27

Abstract: Measurements of signal level at 40.3 Mc on radio links 280, 440, and 640 km long show that the received signal is determined either by ionospheric scattering or by long-distance tropospheric propagation depending on the spacing and hanger height of the antennas. The tropospheric signal component is the main contributory factor when using high antennas ( $h_a \approx 30m$ ) at distances up to 450 - 500 km. The ionospheric component of the signal plays a significant role at a distance of 440 km only if low antennas are used, but is significant both in the case of high and low antennas at a distance of 640 km. The authors thank M. M. Shumskaya for her assistance. Original article: six figures, three tables, and four bibliographic entries.

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Genetics

USSR

UDC 575.23.633.11:547

ZOZ, N. N., SEREBRYANNYY, A. M., and ABRAMOV, V. I., Institute of Chemical Physics, Academy of Sciences USSR, Moscow

"Dominant Mutations in Chemical Mutagenesis"

Kiev, Tsitologiya i Genetika, Vol 5, No 6, Nov/Dec 71, pp 497-499

Abstract: The effects of the mutagens N-nitrosoethylurea, N-nitroso-N-ethylurethan, N-nitroso-N-methyl-N'-nitroguanidine, ethyl methanesulfonate, and N-nitrosopiperazine on seeds of the soft winter wheat variety Belotserkovskaya-198 were studied. N-nitropiperazine was investigated for the first time. All the mutagens studied had approximately the same effect as far as the frequency of recessive mutations induced by them was concerned (50-60 percent mutant families in  $M_2$ ), but their capacity to induce dominant mutations differed widely. The most active substance in inducing dominant mutations was N-nitrosoethylurea, which in its optimum concentration (0.05 percent) produced a ratio of the frequency of dominant to recessive mutations of 1 : 2.5. N-nitrosopiperazine, while inducing a high frequency of recessive mutations manifested in  $M_2$ , did not induce any discernible mutations in  $M_1$ . The other mutants tested occupied intermediate positions with respect to the ratio of dominant to recessive mutations. The high activity of  $1/2$



USSR

ZOZ, N. N., et al., Tsitologiya i Genetika, Vol 5, No 6, Nov/Dec 71, pp 497-499

N-nitrosoethylurea in inducing dominant mutations may be related to the fact that nitrosoalkylureas, as has been shown in in vitro experiments, introduce a carbamoyl group into DNA besides acting as alkylating agents.

2/2

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Acc. Nr:

AP0034764

Ref. Code: UR 0241

PRIMARY SOURCE: Meditsinskaya Radiologiya, 1970, Vol 15,  
Nr 1, pp 43-48

IDENTIFICATION OF FOCAL LESIONS ON SCANNOGRAMS

Ignat'yev, U. V.; Serebryanny, E. G.; Sergiyenko, V. B.;  
Summary Filatov, V. I.

Experiments which helped to establish regularities making possible for the physicians to read scannograms and identify local lesions on them are described. Information characteristics are presented and recommendations substantiated, facilitating the choice of optimal scanning conditions.

D. n .

REEL/FAME

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USSR

UDC: 512.25/.26+519.3:330.115

SEREBROVSKIY, A. N., TUNYEV, A. D.

"Estimating the Number of Realizations of a Random Quantity as a Function of Accuracy of the Solution of a Stochastic Problem in Linear Programming"

V sb. Mat. metody issled. i optimizatsii sistem (Mathematical Methods of Studying and Optimizing Systems--collection of works), vyp. 5, Kiev, 1970, pp 40-47 (from RZh-Kibernetika, No 7, Jul 71, Abstract No 7V625)

[No abstract]

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72 024 UNCLASSIFIED PROCESSING DATE--16 OCT 70  
TITLE--EXCRETION AND EXCRETION FROM MICE (CONTACT AND WITH  
TRANSPLANTABLE TUMORS) OF C PRIME14 AURANTIN -U-  
THOR-100)-SUSKOVA, V.S., KHASIGOV, P.Z., CHERNOV, V.A., KARPOV, V.L.,  
SEREBRYAKOV, N.G.  
COUNTRY OF INFO--USSR

S  
SOURCE--ANTIBIOTIKI, 1970, VOL 15, NR 5, PP 437-441

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HOUSE, TISSUE TRANSPLANT, TUMOR, SARCOMA, LYMPHATIC SYSTEM,  
LIVER, KIDNEY, LUNGS, SPLEEN, SMALL INTESTINE, RADIOACTIVE TRACER,  
THYMUS GLAND, AUTINEOPLASTIC DRUG, CARBON ISOTOPE

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2/2 024

UNCLASSIFIED

PROCESSING DATE--16OCT70

IRC ACCESSION NO--AP0115160

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DISTRIBUTION OF C PRIME14 AURANTIN IN MICE INTACT AND WITH TRANSPLANTABLE LYMPHOLEUCOSIS NK-LY AND LYMPHOSARCOMA LIO 1, AND ITS EXCRETION AFTER SINGLE INTRAVENOUS OR SUBCUTANEOUS ADMINISTRATIONS WERE STUDIED. THE DISTRIBUTION OF THE DRUG WAS NOT REGULAR. RADIOACTIVITY IN THE LIVER, KIDNEYS, LUNGS AND SPLEEN REGISTERED IN 30 TO 60 MINUTES AFTER THE DRUG ADMINISTRATION WAS REDISTRIBUTED IN 6 HOURS AFTER INTRAVENOUS ADMINISTRATION AND IN 18-24 HOURS AFTER SUBCUTANEOUS ADMINISTRATION WITH AN INCREASE IN ITS LEVELS IN THE SPLEEN, THIN INTESTINE, THYMUS. MAXIMUM ACTIVITY IN TUMORS WAS OBSERVED BY THE END OF 24 HOURS, THE LEVEL IN NK-LY BEING HIGHER THAN IN LIO 1. AFTER INTRAVENOUS ADMINISTRATION THE ORGANS WERE MAINLY FREE FROM ACTIVITY BY THAT TIME, WHILE AFTER SUBCUTANEOUS ADMINISTRATION THE ORGANS WERE MAINLY FREE FROM ACTIVITY BY THE END OF THE 2ND DAY AND LATER. AFTER SUBCUTANEOUS ADMINISTRATION OF C PRIME14 AURANTIN FOR 3 TIMES AT AN INTERVAL OF 48 HOURS NO ACCUMULATION OF THE DRUG IN THE ORGANS AND TISSUES, INCLUDING TUMORS WAS OBSERVED. THE RESULTS OBTAINED ARE DISCUSSED. FACILITY: INSTITUTE OF MEDICAL RADIOLOGY OF ACADEMY OF MEDICAL SCIENCES OF THE USSR, OBNINSK.

UNCLASSIFIED

USSR

UDC: 621.373:530.145.6

VANYUKOV, M. P., ISAYENKO, V. I., PASHININ, P. P., SEREBRYAKOV, V. A.,  
SIZOV, V. N., STARIKOV, A. D.

"Shaping of High-Power Pulses With a Steep Leading Edge in a Laser System  
With Passive Nonlinear Elements"

V sb. Kvant. elektronika (Quantum Electronics--collection of works), No 1,  
Moscow, 1971, pp 35-41 (from RZh-Radiotekhnika, No 5, May 71, Abstract No  
5D177)

Translation: An investigation is made of the change in duration of light  
pulses during passage through illuminated media of different transparencies.  
A nonmonotonic reduction in pulse duration after passage through the medium  
is observed when there is a change in the density of the light load. A re-  
lationship is established between the region of maximum constriction of the  
light pulse and the magnitude of the light load for different concentrations  
of transilluminated media. An anomaly is found in the curve for the process  
of transillumination of a metallized film when it is exposed to intense light  
flux. Recommendations are made on using the observed effects for shaping  
short pulses with a steep leading edge, leading to development of a laser  
system based on neodymium glass with a pulse length of 5-7 nsec with a rise  
time of approximately 1 nsec and emission power of 20 GW. Five illustrations,  
bibliography of ten titles. Resumé.  
1/1

UDC 547.269.3+541.49

USSR

IL'YASHEVICH, I. I., PODCHAYNOVA, V. N., SEREBRYAKOVA, N. V., YEGOROVA, L. G., and TYURENKOVA, G. N., Ural Polytechnical Institute imeni S. M. Kirov

"Synthesis of Complexing Agents. Ethylenediamine-N,N'-di- $\beta$ -ethanesulfonic-N-methylphosphonic Acid and Its Properties"

Leningrad, Zhurnal Obshchey Khimii, Vol 41 (103), No 4, Apr 71, pp 758-761

Abstract: Ethylenediamine-N,N'-di- $\beta$ -ethanesulfonic acid was dissolved in water; its pH was brought to 8-9. Chloromethylphosphonic acid was prepared. Both solutions were then combined, kept on water bath until the pH ceased to change, maintaining it at 8-9 during the reaction time. At the completion of the reaction, the solution was cooled, its pH lowered to 1-2 by addition of HCl, the solution was filtered and evaporated. Next it was passed through a KU-1 ion exchange column, evaporated, and the product -- ethylenediamine-N,N'-di- $\beta$ -ethanesulfonic-N-methylphosphonic acid (I), m.p. 86-87° is precipitated with methanol. It is more basic than ethylenediamine-N,N'-di- $\beta$ -ethanesulfonic acid, but less basic than ethylenediamine-N,N'-tri- $\beta$ -ethanesulfonic acid (II). It was shown that presence of the P(O)(O<sup>-</sup>)<sub>2</sub> group in (I) increases the stability of its complexes with cations, as compared to (II).

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UDC 621.762.55:669.018.4

USSR

KOVAL'CHENKO, M. S., BOGOMOL, I. V., SEDEBRYAKOVA, T. I., Institute of  
Problems of Material Science, Academy of Sciences Ukr SSR

"Studies of Kinetics of Hot Pressing of Alloys of Titanium and Tungsten  
Carbides Cemented with Niobium"

Kiev, Poroshkovaya Metallurgiya, No 6, Jun 72, pp 15-21.

Abstract: The kinetics of the process of sintering of alloys containing the carbides of titanium and tungsten and cemented with niobium by hot pressing is studied. The influence of the hot pressing parameters (temperature, pressure and holding time) on the density of the cermets is studied to determine the optimal technological modes for production of high density alloys, and also to reveal the regularities of the kinetics of the process of compacting during sintering. The content of the metal component was varied from 25 to 75 at.%. It was found that compacting during sintering of cermets is controlled by processes of unstable creep in the initial stage of hot pressing and of stable creep in later stages. The greatest relative density (0.93-0.97%) was achieved at 2,100-2,375°C under a pressure of 300 kg/cm<sup>2</sup>, time 10-15 minutes.

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SEREBRYAKOVA, Z. N.

SO: JPAS 53378  
16 June 71

UDC: 616.895.8-037

CLINICAL AND OCCUPATIONAL PROGNOSIS OF SCHIZOPHRENIA (ACCORDING TO THE FINDINGS OF AN EPIDEMIOLOGICAL SURVEY) *Al- (Psychiatry)*

Article by N.M. Markov, Z.N. Serebryakova, Yu.I. Liberman, Institute of Psychiatry, USSR Academy of Medical Sciences, Moscow; Vsevolod Akademy of Medicine, USSR Academy of Medical Sciences, Moscow; Vsevolod Akademy of Medicine, USSR Academy of Medical Sciences, Moscow, No 5, May 1971, pp 31-34

There is an enormous quantity of works in the psychiatric literature which deal with clinical and occupational prognosis on schizophrenia. However, as a rule these studies were pursued on the basis of samplings, and those that could be representative do not contain sufficiently differentiated clinical information about the patients and are performed in the statistical aspect. The use of the epidemiological method in psychiatry discloses new prospects in development of problems dealing with clinical and occupational prognosis. However, the existing discrepancies in diagnostic positions among psychiatrists and differences in clinical interpretation of the content of schizophrenia present great difficulties in evaluating the actual significance of epidemiological data. For this reason, specialists of different nations are currently engaged in a persistent attempt to develop methods of evaluating and classifying mental patients without the diagnostic acts of the researcher, and to render the results thus obtained accessible for quantitative evaluation.

In view of the distinctive features of mental diseases, for the purposes of epidemiological studies, of special importance is the development of special scales reflecting psychopathological structure and severity of the different symptoms. In view of the present status of clinical psychiatry, most adequate for a unified evaluation of mental patients should be a scale based on the syndrome levels.

On the basis of many years of clinical investigation of schizophrenia at the Institute of Psychiatry USSR AMS, different syndromes of schizophrenia were isolated and described. Using them it is possible not only to identify any condition of the patients at the time of examination, but also to describe the stage of development of the disease. The practice of using a roster of syndromes to evaluate patients and make diagnoses by representatives of different psychiatric schools has shown that there is sufficient agreement with respect to syndromological (as opposed to diagnostic) evaluation.

USSR

UDC 621.311.21:627.881.001.57

SEREBRYAKOVA, Z. V.

"Hydraulic Laboratory Studies of a Standard Rubbish Screen for Channel Hydroelectric Power Plants"

Tr. Vses. proektno-izyskat. i NII Gidroproyekt (Works of the Gidroproyekt All-Union Planning, Surveying and Scientific Research Institute), 1970, collection 19, pp 99-118 (from RZh-Elektrotehnika i Energetika, No 4, Apr 71, Abstract No 4 D138)

Translation: Hydraulic studies of a rubbish screen to determine the separating effect of the screen elements on its drag considering the percentage coverage were performed. The principle of addition of the drag from individual structural elements and determination of the total drag of the screen were investigated. Problems connected with practical utilization of the existing formulas and experimental results in planning and design work for calculating the head loss at clean screens were discussed. There are 4 illustrations and an 8-entry bibliography.

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Power, Turbine, Engines, Pumps

UDC 621.311.21:627.881

USSR

SEREBRYAKOVA, Z. V.

"Head Losses on Clean Rubbish Screens of Channel Hydroelectric Power Plants"

Tr. Vses. proektno-izyskat. i NII Hidroproyekt (Works of the Hidroproyekt All-Union Planning, Surveying and Scientific Research Institute), 1970, collection 19, pp 84-98 (from RZh-Elektrotehnika i Energetika, No 4, Apr 71, Abstract No 4 D139)

Translation: The results of laboratory and natural data on head losses at clean rubbish screens of channel hydroelectric power plants are generalized. The causes of their occurrence and some practical conclusions are discussed. There is 1 illustration and an 8-entry bibliography.

USSR

UDC 616.981.42-036.22-022.39

SLESARENKO, V. V., SEREBRENNIKOVA, S. S., and GRINFEL'D, L. A., Republic Sanitary Epidemiological Station, Ukrainian SSR, and Odesskaya Oblast Sanitary Epidemiological Station

"An Outbreak of Brucellosis Associated With the Importation of Sick Animals"

Moscow, Zhurnal Mikrobiologii, Epidemiologii, i Immunologii, No 9, Sep 70, pp 107-109

Abstract: The danger of epidemic outbreaks of brucellosis which may develop when young cattle are brought from brucellosis-infested areas into brucellosis-free territory is noted. It is imperative that veterinary and sanitation specialists conduct various safety measures aimed at the prevention, timely discovery, and rapid elimination of the focus of infection. These measures include thorough examination of livestock for brucellosis at the time of entry and one month later, using serological and allergic methods. Depending on the results of the examination, the entire herd may have to be kept under quarantine until the first litter is born at which time all aborted animals should be examined bacteriologically. Clinical and anamnestic examination of all farm workers should be carried out routinely.

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USSR

UDC 531.43.621.791.92

ORESHKIN, V. D., SVETLOPOLYANSKIY, V. I., and SEREBRYAKOVA, T. I., (Institute of Materials Science Problems, Academy of Sciences, Ukrainian SSR)

"Study of Wear Resistance of Surfaces Hard Faced with Borides"

Poroshkovaya Metallurgiya, No 3, Mar 71, pp 78-82

Abstract: High-alloy hard faced layers formed of the borides of titanium, chromium, and tungsten were studied, as well as titanium-chromium diboride with a molar ratio  $TiB_2$ ;  $CrB_2=4:1$ . All of the coatings were subjected to x-ray phase analysis. X-ray analysis indicated that the initial powders consisted of titanium diboride, a dual titanium-chromium diboride, a mutual solid solution based on  $TiB_2$  and chromium diboride, a mixture of the phases  $CrB_2$  and  $Cr_3B_4$ , as well as  $W_2B_5$ . The boride facings have excellent use properties resulting from the exceptionally high alloying ability of the facing layer, produced by introducing several refractory components which have different influences on the general properties of the alloy but give it an excellent structure.

1/1

Acc. Nr:

AP0052069

Ref. Code: UR0396

PRIMARY SOURCE: Patologicheskaya Fiziologiya i  
Eksperimental'naya Terapiya, 1970, Vol 14,  
Nr 1, pp 68-71

CHANGES OF ERYTHROPOIETINS FOLLOWING ACUTE BLOOD LOSS IN DOGS

G. P. Moskaleva, B. A. Serebryanaya, N. A. Gorbunova

The authors studied the results of changes of erythropoietins in the blood serum of dogs following acute blood loss on 25 dogs, 185 rats and 119 mice. Biphasic character of accumulation of erythropoietins in the blood serum of dogs was shown on the first and 5th day after acute blood loss. In comparing the dynamics of the erythropoietin content with the changes in the peripheral blood and bone marrow it was noted that the first phase of erythropoietin accumulation paralleled the increase of mitotic activity of erythroblasts and the reticulocyte count in the bone marrow and the peripheral blood; this was possibly associated with hypoxia caused by blood loss. The second phase of increase of erythropoietic activity coincided with bone marrow activation and with reticulocytic crisis in the peripheral blood. A conclusion was drawn on the importance of erythropoietins in the mechanism of blood regeneration following blood loss.

REEL/FRA  
19820607

Photoelectric Effect

USSR

LEVITIN, Ye. I., SEREBRYANIK, Ye. B., ZAYDEL', I. N., SHEKHMEYSTER, Ye. I.,  
KUZIN, N. I., OSOKIN, G. V., BARANOVA, G. M.

"Method of Production of Photoelectron Devices"

USSR Author's Certificate No 274247, filed 13 Nov 67, published 24 Sep 70  
(from RZh--Elektronika i yeye primeneniye, No 5, May 1971, Abstract No  
5A185P)

Translation: A method is patented for production of a photoelectron device with a multialkaline photocathode. Maximum sensitivity is assured by inclusion of multiple heatings in the process of producing the photoelectron device. Sensitizing of the photocathode by oxygen is performed after each heating. The operations are repeated until a steady value of the sensitivity of the photocathode is obtained. T. F.

1/1

USSR

UDC 669.71.017:620.18

TSAREGORODTSEVA, A. I. and SEREBRIYSKIY, E. I.

"Structural Investigation of Ingots of Alloys of the System Al-Zn-Mg"

Metallovedeniye Splavov Legkikh Metallov-Sbornik, Moscow, "Nauka", 1970, pp 49-51, resume

Translation: Results are presented of an investigation of ingot structures of alloys of the system Al-Zn-Mg with relations  $Zn/Mg \sim 0.5$  and  $Zn/Mg \sim 0.2$ , cast by a semicontinuous casting method. It is demonstrated that, as a result of a non-equilibrium crystallization in ingots of these alloys, excess phases develop on grain boundaries of the eutectic type:  $\alpha + \beta$  ( $Al_3Mg_2$ )+ $T(Al_2Mg_3Zn_3)$  and  $\alpha + T(Al_2Mg_3Zn_3)$ , and also intermetallic phases:  $AlMg(Mn, Cr)$ ;  $Al_6(Mn, Fe)$ ;  $Mg_2Si$ ;  $AlSiMnFe$ ;  $AlSiFe$ ;  $Al_6Mn$ ; and  $Al_3Fe$ . Investigations of the liquation and composition of excess phases were carried out by methods of metallographic and microcentgenospectral analyses and by measuring the microhardness. Two figures, three bibliographic references.

1/1

- 5 -



USSR

UDC 681.142.1

LEPAYEV, V. V., KOLIN, K. K., SEREBROVSKIY, L. A.

"Control Computer Software"

Matematicheskoye Obespecheniye Upravlyayushchikh TsVM, Moscow, Sovetskaya Radio Press, 1972, 528 pp

Translation of Annotation: This monograph analyzes the main problems involved in the development of general software for digital computers used in automated control systems in real-time applications. The software for technological processes of planning algorithms and programs of control computers (programming, debugging, production of documentation) is studied, as well as the software for the organization of the computer process as the computer functions in the control system.

Considerable attention is given to problems and the structure of software systems for control computers, as well as methods and criteria for evaluating their effectiveness. A typical structure of an operational system, its functioning modes, and the algorithms of the main programs organizing the computational process are studied. Queueing theory methods are used to study various computation disciplines with unlimited waiting of requests in line or with losses of requests (messages) in the limited buffer memory of the computer.

1/2

USSR

Lipayev, V. V., Kolin, K. K., Serebrovskiy, L. A., Matematicheskoye Obespecheniye Upravlyayushchikh TsVM, Moscow, Sovetskoye Radio Press, 1972, 528 pp.

Problems and methods of automation of the process of programming for control computers, programming languages, and translation and testing algorithms for inter-related large-volume programs are studied. A typical structure of a system for automation of programming and output of technical documentation on algorithms and programs is presented. The basic problems of automation of debugging of algorithms and programs for control computers and the structure and technological plan for an automated debugging system are analyzed.

The book is designed principally for scientific workers and engineers in the area of investigation and planning of the software of digital control computers. It can be used as a software course text for teachers and students in the higher levels of colleges of the corresponding specialties. 156 figures, 2 tables, 102 biblio. refs.

2/2

- 42 -

1/2 027 UNCLASSIFIED PROCESSING DATE--27NOV70  
TITLE--EXPERIENCE IN THE ORGANIZATION OF COUNTEREPIDEMIC MEASURES IN A  
GARRISON IN THE PERIOD OF AN OUTBREAK OF INFLUENZA -U-  
AUTHOR--SEREBRYANSKIY, V.S.  
COUNTRY OF INFO--USSR  
SOURCE--VOYENNO-MEDITSINSKIY ZHURNAL, NO 3, 1970, PP 65-66  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--INFLUENZA, EPIDEMIOLOGY, PROPHYLAXIS, MILITARY MEDICINE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--3006/0700 STEP NO--UR/0177/70/000/003/0065/0066  
CIRC ACCESSION NO--AP0134436  
UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0134436

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN PERIODS OF EPIDEMIC OUTBREAKS OF INFLUENCE QUESTIONS ABOUT THE ORGANIZATION OF PROPHYLACTIC AND COUNTEREPIDEMIC MEASURES STAND AT THE CENTER OF ATTENTION OF THE MILITARY MEDICAL SERVICE. THE EXPERIENCE SHOWED THAT UNDER THE CONDITIONS OF AN UNFAVORABLE EPIDEMIC SITUATION A STRICT AND SYSTEMATIC IMPLEMENTATION OF THE SYSTEM OF PROPHYLACTIC AND COUNTER EPIDEMIC MEASURES WORKED OUT IN THE SOVIET ARMY AND NAVY HAS DECISIVE IMPORTANCE IN THE PREVENTION OF ENTRY OF INFLUENZA INTO MILITARY COLLECTIVES, AND ALSO IN THE LOCALIZATION AND ELIMINATION OF FOCI OF DISEASES IF THEY FORM.

UNCLASSIFIED

1/2 024 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--SYMPTOMS OF SOLAR GANGLION INVOLVEMENT IN DIFFERENT FORMS OF ACUTE  
PANCREATITIS --U-  
AUTHOR--(02)--SEREBRYANTSEV, V.K., GLUKHOVETS, B.I.  
COUNTRY OF INFO--USSR  
SOURCE--VRACHEBNOYE DELO, 1970, NR 5, PP 47-49  
DATE PUBLISHED--70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--PANCREATITIS, SURGERY, EDEMA, GANGLION  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--3001/1955 STEP NO--UR/0475/70/000/005/0047/0049  
CIRC ACCESSION NO--AP0127356  
UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--30OCT76

CIRC ACCESSION NO--AP0127356

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE "SOLAR GANGLION" SYMPTOM WAS STUDIED IN 64 PATIENTS SURGICALLY AND CONSERVATIVELY TREATED FOR DIFFERENT FORM OF ACUTE PANCREATITIS. IN EDEMA OF THE PANCREAS THE "SOLAR GANGLION" SYMPTOM PROVED POSITIVE IN 77.5PERCENT, IN CHOLECYSTOPANCREATITIS IN 35PERCENT OF CASES; IN OTHER FORMS IT PROVED NEGATIVE. TAKING INTO CONSIDERATION THE MECHANISM OF DEVELOPMENT OF THE "SOLAR GANGLION" SYMPTOM THE AUTHORS RECOMMEND THAT PATIENTS WITH ACUTE PANCREATITIS REMAIN IN POSITION "ON THEIR SIDE" IN THE PRE AND POSTOPERATIVE PERIOD. FACILITY: MIKHAYLOV, RYAZAN REGION.

UNCLASSIFIED

USSR

~~SECRETARY GENERAL~~

"Information Retrieval Learning"

Moscow, Nauchno-Tekhnicheskaya Informatsiya: Seriya 2 - Informatsionnyye  
Protsessy i Sistemy; July, 1972; pp 3-8

ABSTRACT: The statement of the problem and results of experiments on the automatic selection of retrieval criteria are presented. The problem of criteria selection is considered as a problem of pattern recognition learning. The criteria chosen as a result of learning, as well as noise and loss during searches in accordance with these criteria, are considered. A "limiting" noise level which cannot be substantially lowered is determined from the experiments. The expediency of selecting criteria by learning is discussed. The relation between information retrieval learning and nondeductive logic is investigated.

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USSR

UDC 577.1:615.7/9

~~SEREZBYANYI~~, A. M., SMOTRYAYEVA, M. A., KRUGLYAKOVA, K. Ye., and  
KOSTYANOVSKIY, R. G.

"Study of the Molecular Mechanism of the Mutagenic Effect of N-Nitro-N-Methylurea"

V sb. 7-y Mezhdunar. Simpozium po khimii prirod. sovedin. 1970. Tezisy dokl. (7th International Symposium on the Chemistry of Natural Products. Abstracts of Reports -- Collection of Works), Riga, "Zinatne", 1970, pp 230-231 (from RZh-30F. Biologicheskaya Khimiya, No 1, Jan 71, Abstract No 1F2110)

Translation: Under the action of N-nitroso-N-methylurea (I) on DNA of thymus and spleen in rats, carbamoylation of DNA and fragmentation of the polynucleotide chain takes place together with methylation. Among the products of the reaction of I with cytidine is N-carbamoylcytidine; its acid hydrolysis forms uridine. According to the conclusion of the authors, carbamoylation of DNA in vivo may lead to the occurrence of mutations. A. Ignatlyev



1/3 015 UNCLASSIFIED PROCESSING DATE--27NOV70  
TITLE--IRREGULARITY IN THE DISTRIBUTION OF GOLD IN ROCKS AND MINERALS,  
ILLUSTRATED BY RADIOACTIVATION ANALYSIS DATA -U-  
AUTHOR--(05)-ROZHKOV, I.S., RAKOVSKIY, E.YE., BERENSHTEYN, L.YE.,  
SEREBRYANY, B.L., SHILIN, N.L.  
COUNTRY OF INFO--USSR  
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(4), 927-30  
DATE PUBLISHED-----70  
SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY  
TOPIC TAGS--GOLD, ROCK, MINERAL, GEOCHEMISTRY, RADIOACTIVITY MEASUREMENT,  
NEUTRON ACTIVATION ANALYSIS  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3001/0569 STEP NO--UR/0020/70/191/004/0927/0930  
CIRC ACCESSION NO--AT0126315  
UNCLASSIFIED

2/3 015

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AT0126315

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RADIOACTIVATION SAMPLING FOR AU IN ROCKS AND MINERALS BY USING SUBSTOICHIOMETRIC SEPN. IS VERY RELIABLE AND HAS A VERY GOOD REPRODUCIBILITY (SCATTERING OF PARALLEL DETNS. SMALLER THAN 20PERCENT). IT REQUIRES, HOWEVER, A SAMPLE WEIGHING LARGER THAN OR EQUAL TO 100 MG. THE EFFECT OF NATURAL SCATTERING OF AU ON THE REPRODUCIBILITY OF RESULTS OF RADIOACTIVATION ANAL. WAS INVESTIGATED. THE SCATTERING OF AU DISTRIBUTION IN ROCKS AND MINERALS DEPENDED ON NUMEROUS FACTORS; FORM OF AU OCCURRENCES IN THE MINERAL, STRUCTURAL AND TEXTURAL CHARACTERISTICS OF ROCKS, AND INTENSITY OF SECONDARY ALTERATIONS. THE ERROR OF AN ANAL. DETN. CONSISTS OF 2 COMPONENTS: ERROR RELATED TO THE REPRODUCIBILITY OF THE METHOD (SIGMA SUBR) AND ERROR RELATED TO HETEROGENEITY OF AN ANALYZED SAMPLE (SIGMA SUBH). THE SUMMARY ERROR (SIGMA SIGMA) IN DETG. THE AV. CONTENT OF AN ELEMENT IN AN ANALYZED SAMPLE IS,  $SIGMA\ SIGMA\ PRIME^2 = SIGMA\ SUBR\ PRIME^2 + SIGMA\ SUBH\ PRIME^2$ . THE RESULTS OF LARGER THAN 200 NEUTRON ACTIVATION DETNS. OF AU IN ROCKS AND MINERALS, PROCESSED STATISTICALLY, SHOWED THAT THE NATURAL HETEROGENEITY IN AU CONTENTS IN AMPHIBOLE GABBRO, BIOTITE AMPHIBOLE DIORITE, BIOTITE AMPHIBOLE GRANODIORITE, GRANITE VEIN IN GRANODIORITE, APLITE VEIN IN GRANODIORITE, AND APLITE VEIN IN GABBRO IS MUCH HIGHER THAN THE ERROR OF REPRODUCIBILITY OF THE METHOD (SIGMA SUBR SIMILAR TO 20PERCENT). NATURAL HETEROGENEITY WAS SO HIGH THAT THE AU CONTENTS IN INDIVIDUAL BATCHES OF THE SAME SAMPLE DIFFERED FROM EACH OTHER BY LARGER THAN 5 TIMES.

UNCLASSIFIED

3/3 015

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AT0126315

ABSTRACT/EXTRACT--THEREFORE, IF SIGMA SUBR IS SMALL, THERE ARE REASONS TO  
USE THE MOST ACCURATE METHODS OF DETN.; BUT IF SIGMA SUBH IS MUCH HIGHER  
THAN SIGMA SUBR, THEN THE USE OF ACCURATE AND USUALLY EXPENSIVE ANAL.  
METHODS IS SENSELESS IF DETN. IS MADE FROM SMALL SAMPLES  
NONREPRESENTATIVE WITH RESPECT TO THE INITIAL OBJECT. FACILITY:  
TSENT. NAUCH. ISSLED. GORNORAZVED. INST. TSVET. REDK. BLAGO ROD. METAL.,  
MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 612.018.2+612.4597-07

GYULLING, E. V., Candidate of Medical Sciences, KAVSAN, V. M., Candidate of Biological Sciences, MEL'NIKOV, O. F., MIKOL'SKIY, I. S., and SEREBIYANYX, S. B., Doctor of Chemical Sciences, Kiev Scientific Research Institute of Otolaryngology, and Sector of Molecular Biology and Genetics, Academy of Sciences USSR

"Possible Regulation of the Immunological Activity of the Lymphoid System by Thymus Factors. 1. Stimulation of Antibody Formation by Calf Thymus Extract Fractions Obtained by Means of Sephadex G-25"

Kiev, Zhurnal Ushnykh Nosovykh i Gorlovykh Boleznay, No 6, 1971, pp 25-27

Abstract: The crude extract of the thymus gland has no biological activity. However, when the acetone-insoluble extract of calf thymus is separated into three fractions by means of gel filtration through Sephadex G-25, the first two fractions stimulate immunogenesis in newborn mice, that is, 15 microgram thymus protein doses injected subcutaneously increase the number of antibody-producing cells in the spleen and the weight of the spleen. It was concluded that the crude thymus extract contains stimulating and inhibiting factors and that after Sephadex filtration the latter remain in the third fraction. It is suggested that the purified stimulating factors might be useful in treating diseases developing as a result of immunological insufficiency.

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1/2 016

TITLE--DISTRIBUTION OF SHORT LIVED RADON DECAY PRODUCTS ON AEROSOL  
PARTICLES OF MINE AIR -U-  
AUTHOR--(02)-SAVENKO, YE.I., SERDYUKOVA, A.S.

UNCLASSIFIED

PROCESSING DATE--16OCT70

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., GEOL. RAZVED. 1970, 13(3), 123-7

DATE PUBLISHED-----70

SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--RADIOACTIVE DECAY, RADON, RADIOACTIVE AEROSOL, BISMUTH  
ISOTOPE, POLONIUM, LEAD ISOTOPE, PARTICLE SIZE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1994/0419

STEP NO--UR/0151/70/013/003/0123/0127

CIRC ACCESSION NO--AT0114699

UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AT0114699

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PARTICLE SIZE DISTRIBUTION OF PRIME 218 PO, PRIME214 PB, AND PRIME214 BI WAS DETD. BY MEASURING THEIR MOBILITY IN AL ELEC. FIELD. AN APP. WAS USED THAT CONSISTED OF AN IONIZER, AN ELECTROSTATIC PRECIPITATOR, AND A DEVICE RECORDING THE ALPHA ACTIVITY. THE AIR WAS DRAWN THROUGH THE APP. AT 20 L.-MIN. THE AEROSOL PARTICLES WERE CHARGED WITH A CORONA DISCHARGE. THE IONIZER WAS AN ORG. GLASS CYLINDER WITH A RADIUS OF 1.1 CM AND A LENGTH OF 5 CM WITH 2 ELECTRODES, 1 CONSISTING OF 18 CU RODS (1 CM LONG AND 0.1 CM IN DIAM.) AND THE OTHER OF A CU PLATE 4.5 CM LONG AND 1.5 CM WIDE. THE DISTANCE BETWEEN THE ELECTRODES WAS 1 CM. ON THE RODS A NEG. VOLTAGE OF 2500 V WAS APPLIED, AND ON THE PLATE A POS. VOLTAGE OF 2500 V. THE TIME REQUIRED FOR CHARGING PARTICLES WITH A RADIUS OF 0.005-0.1 MU WAS 2.6 TIMES 10 PRIME NEGATIVE2 TO 5 TIMES 10 PRIME NEGATIVE4 SEC. CALCNS. SHOW THAT IN THE APP. THE DISTRIBUTIONS OF PARTICLES WITH A RADIUS OF 0.008-0.12 MU CAN BE STUDIED. LAB. VERIFICATION SHOWED THAT THE EFFICIENCY OF THE APP. IS 74PERCENT. THE ACTIVITY DISTRIBUTION CURVES SHOW 2 MAX.: AT SIZES SMALLER THAN 0.015 MU (ABOVE 50PERCENT ACTIVITY) AND AT 0.036 MU (20PERCENT). IF THE POLLUTION OF THE AIR WITH DUST IS BETWEEN 1.4 AND 2.1 MG-M PRIME3, THE ACTIVITY DISTRIBUTION MAX. IS BETWEEN 0.055 AND 0.072. MU. FACILITY: MOSK. GEOLOGORAZVED INST. IM. ORDZHONIKIDZE, MOSCOW, USSR.

UNCLASSIFIED

1/2 018  
UNCLASSIFIED  
TITLE--PLANNING AN EXPERIMENT USING COMPOSITION PROPERTY DIAGRAMS -U-  
PROCESSING DATE--27NOV70  
AUTHOR--(04)-SEREDA, E.A., KARTASHOVA, T.M., BELYAKOVA, L.K., GUZEYEV, V.V.  
COUNTRY OF INFO--USSR  
SOURCE--PLAST. MASSY 1970, (2), 55-7  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY, MATERIALS  
TOPIC TAGS--PHYSICAL CHEMISTRY PROPERTY, POLYVINYL CHLORIDE, SYNTHETIC RUBBER, GRAPHIC TECHNIQUE, ORGANOLEAD COMPOUND, CHEMICAL STABILIZER, PHOSPHATE ESTER/(U)SKN26 RUBBER  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1992/1693  
CIRC ACCESSION NO--AP0112687  
STEP NO--UR/0191/70/000/002/0055/0057  
UNCLASSIFIED

2/2 018

CIRC ACCESSION NO--AP0112687  
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--27NOV70

ABSTRACT. THE USE OF THE SIMPLEX METHOD FOR THE STUDY OF PHYS. PROPERTIES OF A TERNARY PLASTIC SYSTEM AS A FUNCTION OF COMPN. WAS DISCUSSED. THE EXPTS. WERE CONDUCTED WITH A SYSTEM COMPOSED OF S-70 POLY(VINYL CHLORIDE), SKN-26 RUBBER, TRICRESYL PHOSPHATE, AND A MIXT. OF STABILIZERS (2PBCO SUB3, PB(DH) SUB2 AND TRIS(NONYLPHENYL) PHOSPHITE). SEVERAL QUADRATIC EQUATIONS, WHICH EXPRESSED THE PHYS. PROPERTIES OF PLASTICS AS A FUNCTION OF COMPN., WERE DERIVED AND THE DATA WERE PLOTTED ON A TRIANGULAR DIAGRAM. THE ANAL. METHOD CUT THE NO. OF EXPTS. BY GREATER THAN TWO THIRDS AND THE CALCD. CURVES MATCHED THE EXPTL. ONES FAIRLY WELL.

UNCLASSIFIED



Acc. Nr:

AP0043754

Ref. Code: UR 0050

PRIMARY SOURCE: Meteorologiya i Gidrologiya, 1970, Nr 3,  
pp 95-100 S

AUTOMATIZED INFORMATION RETRIEVAL AND INFORMATION RETRIEVAL  
LANGUAGE FOR METEOROLOGY AND HYDROLOGY

G. A. Sorokina

The article states the basic problems associated with automation of scientific information retrieval on hydrometeorology as well as some results of investigations on elaboration of information retrieval language. Considerations on investigation prospects in this field for the nearest five-year period are given.

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REEL/FRA  
19770160

24/12

128. USSR *SEREDA, G. K.*  
*nc*  
SEREDA, G. K., and *nc* SNOPIK, B. I., Khar'kov University

*Cybernetics*

*1960*

"On the Identity of Mechanisms in Short Term and Long Term Memory"

Moscow, Voprosy Psikhologii, Vol 6, Nov-Dec 70, pp 60-74

*Soviet Psychology Abstract*  
*31 1972 71*

Abstract: This is an attempt to refute Broadbent's thesis that short term memory is a process essentially different from long term memory, involving the classification of materials by its sensory qualities. If this were the case, short term memorization would be essentially independent of any use the subject might make of the material presented. This hypothesis was tested by four experiments, in all of which the subjects were presented with identical material -- sets of fourteen randomly organized letters and numerals. The instructions in the four experiments were: 1a) "Try to make words from the letters presented;" 1b) "Count the number of odd and even integers presented;" 2a) "Place check marks in a blank matrix for all the positions occupied by letters;" 2b) "Place check marks in a blank matrix for all the positions occupied by numerals;" 3) "This is a sample of the material to be used in the next experiment;" 4) "Memorize as much of the material presented as possible."

After each presentation the subjects were asked to recall the material presented. The results showed that in the first experiment recall was much better for the

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USSR

UDC 669.018.25.531.44

KOVAL'CHENKO, M. S., ALEKSEYEV, V. I., and SEREDA, N. N., Institute of Problems of Material Science, Academy of Sciences Ukrainian SSR

"Friction of Hard Alloys in a Vacuum at Low Temperatures"

Kiev, Poroshkovaya Metallurgiya, No 5, May 73, pp 88-93

Abstract: The effect of cooling (down to 98°K) on friction and wear characteristics was studied for hard alloys when extremely severe test conditions -- friction with seizure -- are created. Alloys tested were the VK15 and TiC-1Kh18W9T (33% by weight). The lowered temperature reduces the friction coefficient for hard alloys which was associated with increased resistance to the mutual rubbing of contacting micro-roughnesses due to increased aggregate hardness of the materials upon cooling and a decreased area of actual contact of the working materials. The presence of a plastic lubricant in the VK15 hard alloy promotes the origination of nodules on the contacting surfaces, causing local non-uniform wear which can be observed during friction at 98°K. Cermets are distinguished by the antifriction properties from the initial components, which can be explained by the heterogeneity of their structure and phase composition. The quality of the friction surface and the wear resistance of the material depend on the material's tendency to become brittle when cooled, and is determined by the phase composition of the hard alloy. 3 figures, 1 table, 9 bibliographic references.

1/1

USSR

UDC 621.35.035(088.8)

RYBKIN, YU. F., SEREDENKO, A. S.

"Electrolytic Cell"

USSR Author's Certificate No 308772, filed 25 Nov 69, published 8 Sep 71 (from RZh-Khimiya, No 12, Jun 72, Abstract No 12L347P)

Translation: An electrolytic cell has been patented for measuring the acidity of molten salts comprising an oxygen and a silver chloride electrode placed in a vessel with a melt of the investigated salts. The cell is distinguished by the fact that in order to increase the measurement accuracy and expand the range useful, the oxygen electrode is made in the form of a tube containing 85%  $ZrO_2$  and 15%  $CaO$ , the inside surface of which is coated with platinum black, and the silver chloride electrode is made in the form of an alundum test tube with a porosity of 0.1-0.2% on the bottom of which an ingot of Ag with a platinum lead is placed under the layer of investigated electrolyte.

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- 21 -

013  
UNCLASSIFIED  
PROCESSING DATE--30OCT70  
TITLE--RANGE OF ACIDITY IN FUSED POTASSIUM CHLORIDE -U-  
AUTHOR--(02)--RYBKIN, YU.F., SEREDENKO, A.S.  
COUNTRY OF INFO--USSR  
SOURCE--UKR. KHM. ZH. 1970, 36(2), 133-6  
DATE PUBLISHED--70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--IGNIZATION POTENTIAL, POTASSIUM CHLORIDE, SODIUM PHOSPHATE,  
FUSED SALT  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--2000/2199  
CIRC ACCESSION NO--AP0125779  
STEP NO--UR/0073/70/036/002/0133/0136  
UNCLASSIFIED

2/2 013

CIRC ACCESSION NO--AP0125779  
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--30OCT79

ABSTRACT. THE P.D. OF THE CELL PT(0 SUB2) MAGNITUDE OF SOLN. MAGNITUDE OF KCL, (AGCL) AG AT 800DEGREES WAS DETD. BY USING A SERIES OF EQUIMOL. MIXTS. AS THE SOLN. FROM THESE MEASUREMENTS THE FOLLOWING PO PRIME2 NEGATIVE WERE CALCD. BY ASSUMING A VALUE OF ZERO FOR THAT OF NA SUB3 PO SUB4 NEGATIVE NAPO SUB3 (SOLN., PD.D IN MV, AND PO PRIME2 NEGATIVE GIVEN): KNO SUB3-KNO SUB2, 43 PLUS OR MINUS 6, 2.61; K SUB2 CO SUB3 NA SUB2 0, 109 PLUS OR MINUS 16, 2.00; NA SUB2 SO SUB4-NA SUB2 S SUB2 0 SUB8, 242 PLUS OR MINUS 2, 0.74; NA SUB3 PO SUB4-NA SUB4 P SUB2 0 SUB7, 282 PLUS OR MINUS 6, 0.37; NA SUB3 PO SUB4-NAPO SUB3, 321 PLUS OR MINUS 3, 0.00; NA SUB2-W SUB2 0 SUB7-NA SUB2 WO SUB4, 325 PLUS OR MINUS 5, MINUS 0.03; K SUB2 SO SUB4-K SUB2 SO SUB4-K SUB2 S SUB2 0 SUB7, 336 PLUS OR MINUS 13, MINUS 0.13; NA SUB2 8 SUB4 0 SUB7, 347 PLUS OR MINUS 6, MINUS 0.24; KCL, 359 PLUS OR MINUS 12, MINUS 0.36; KPO SUB3, 338 PLUS OR MINUS 7, MINUS 0.63. FACILITY: VSES. NAUCH.-ISSLED. INST. MONOKRIST., KHARKOV, USSR.

UNCLASSIFIED

5  
Acc. Nr.: AP0041096

Ref. Code: UR 0115

USSR

UDC 681.2.089.6:621.376.22

BELIKOV, V. A., SOLYANIK, A. S., KLIMASHEVSKIY, V. S., SEREDENKO, B. G.,  
NAZARENKO, A. M.

"Model Device for Testing Amplitude Modulation Coefficient Meters"

Moscow, Izmeritel'naya Tekhnika (Measurement Techniques), 1969, No 12,  
pp 46-48 (from Izmeritel'naya Tekhnika, No 12, 1969, page 110)

Translation: A device is described which permits modulation meters to be  
tested in the modulating frequency range of 0.03-500 kilohertz with co-  
efficients  $AM1 < M < 100$  percent on fixed carrier frequencies of 0.15,  
0.5, 1, 10, 25, 100 megahertz in a continuous range of carrier frequencies  
of 30-1,500 megahertz. There is one table, two figures and a three-entry  
bibliography.

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Reel/Frame  
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USSR

UDC 612.65.023

SEREDENKO, M. M., Institute of Physiology imeni O. O. Bogomolets, Academy of Sciences Ukrainian SSR, Kiev

"Development of Arterial Hypoxemia During the Early Stages of Ontogenesis Conditions of Hypoxia"

Kiev, Fiziologichnyy Zhurnal, Vol 17, No 6, Nov/Dec 71, pp 826-828

Abstract: Puppies aged 2-3 weeks, 1.5-2.5 and 5-6 months, and dogs 2-5 years old were used to determine the role of the age factor in the development of arterial hypoxemia under conditions of hypoxia. Hypoxia was induced by exposing the animals to an air mixture of  $N_2$  with 14.4 and 11%  $O_2$  for 20-25 minutes. Arterial blood for analysis was obtained by means of a cannula inserted into the common carotid artery; alveolar air, by means of a special device automatically separating the alveolar portion of air from the expired air. By means of analysis the degree of blood saturation with oxygen and the alveolar-arterial level of the gradient were obtained. A higher level and more sharply expressed hypoxemia and a higher alveolar-gradient level were found in the younger than in the older animals under identical hypoxia conditions. Literature data bearing on this discrepancy are scarce. Of the theories advanced, one explains it as being due to disproportionate aeration of the

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USSR

SEREDENKO, M. M., *Fiziologichnyy Zhurnal*, Vol 17, No 6, Nov/Dec 71, pp 826-828

pulmonary blood, probably the result of a smaller increase of pulmonary and alveolar aeration in the younger than in the older animals when inspiring of oxygen deficient air. Of possible significance may be also the difficulty of oxygen diffusion through the pulmonary membranes of the young as a result of the effect of edema forming under conditions of hypoxia. An important role may be played also by the shunting factor with the development of venous hypoxemia and a higher gradient between the venous and arterial blood, and manifested under conditions of hypoxia more strongly in the younger than in the older animals.

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USSR

UDC 669.017 : 620.17

SEVERDENKO, V. P., KALACHEV, M. I., and ANKUT, P. P., Physicotechnical Institute, Academy of Sciences Belorussian SSR

"Titanium Flow Curves in Octahedral Coordinates Under Various Strain Conditions"

Minsk, Izvestiya Akademii Nauk BSSR, Seriya Fiziko-Tekhnicheskikh Nauk, No 1, 1973, pp 5-8

Abstract: Flow curves in octahedral coordinates were plotted for commercially pure titanium VT1-1 according to the results of tests described in a previous article by the authors. The straining followed three different stressed state schemes (tension, compression, torsion) in the  $-196 - 800^{\circ} \text{C}$  range. An analysis of the curves for variations in octahedral shear stress indicates that the process of titanium plastic flow is largely influenced by such factors as the plastic strain mechanism and structural transformations taking place during strain. The extent to which these factors are manifested depends on the straining conditions and the stressed state scheme. Finely dispersed phases isolated in the slip zones signify that the critical

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USSR

UDC: 621.384.639

ABROSIMOV, N. K., ALKHAZOV, D. G., DMITRIYEV, S. P., YELISEYEV, V. A.,  
KAMINKER, D. M., KULIKOV, A. V., MIRONOV, Yu. T., MIKHAYEV, G. F.,  
RYABOV, G. A., CHERNOV, N. N., SHALMANOV, V. I., KOMAR, Ye. G., MALY-  
SHEV, I. F., MONOSZON, I. A., PEREGUD, V. I., ROZHDESTVENSKIY, B. V.,  
ROYFE, I. M., SEREDENKO, Ye. V., Physicotechnical Institute imeni A. F.  
Ioffe, Academy of Sciences of the USSR, Leningrad, Scientific Research  
Institute of Electrophysical Equipment imeni D. V. Yefremov, Leningrad

"The Leningrad Synchrocyclotron for a Proton Energy of 1 GeV"

Leningrad, Zhurnal Tekhnicheskoy Fiziki, Vol 41, No 9, Sep 71, pp 1769-1775

Abstract: The paper describes the synchrocyclotron at the Physicotechnical Institute imeni A. F. Ioffe of the Academy of Sciences of the USSR for a proton energy of 1 GeV. Proton beam parameters as well as the characteristics of the main systems of the accelerator are presented. The beam channels are described, and the layout of the accelerator building is given. The installation has been in successful operation since 1970. Three tables, two figures, bibliography of twelve titles.

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USSR

UDC 621.384.6

ABROSIMOV, N.K., DMITRIYEV, S.P., KULIKOV, A.V., MIKHEYEV, G.F., SEREDENKO, YE. V., CHERNOV, N.N. [Fiz.-tekh. in-t AN SSSR -- Physicotechnical Institute, AS USSR]

"Device For Coupling An Oscillator Tube With The Resonance System Of A Synchrocyclotron"

USSR Author's Certificate No 270131, filed 28 Apr 69, published 5 Aug 70 (from RZh--Elektronika i yeye primeneniye, No 2, February 1971, Abstract No 2A403P)

Translation: A device is proposed for coupling an oscillator tube with the resonance system of a synchrocyclotron, which contains a waveguide feeder line. With the object of increasing the reliability of excitation of the resonance system and suppressing the transverse oscillations at the dee, the feeder for direct coupling is fulfilled in the form of two branches connecting the tube anode with the right and left halves of the dee, symmetrically with respect to the longitudinal axis of the dee, and the voltage feedback to the tube cathode is fed across a branching feedback feeder with the inductive voltage divider also arranged symmetrically with respect to the longitudinal axis of the dee at

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USSR

ABROSIMOV, N. K., et al, USSR Author's Certificate No 270131,  
filed 28 Apr 69, published 5 Aug 70

its end opposed to the accelerating slit. In a variation of the proposed device, with the object of obtaining a relatively steady transmission of voltage from the anode of the oscillator tube to the accelerating slit of the dee, a lumped capacitance is connected to the anode of the oscillator tube, and the length and wave resistance of the feedback feeders are respectively matched.

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Microbiology

USSR

SEREDIN V. G., INZHEVATOVA, M. V., MUKHAMEDOV, S. M., RIVKUS, Yu. Z., and  
BYSTRYY, N. F., Uzbek Anti plague Station

"Testing Cholera Phage With a 'Stamp'"

Tashkent, Meditsinskiy Zhurnal Uzbekistana, No 11, 1971, pp 75-77

Abstract: The "stamp" is a device to study a number of cholera vibrio strains at the same time. It consists of five aluminum plates connected by cross-pieces. Each plate has five short pins whose distal ends are working surfaces to which phages are applied. The phages to be tested are diluted in test tubes to  $10^{-4}$  and poured into special plates (0.5 to 0.5 ml of each dilution) containing wells arranged in 5 rows of 5 wells each corresponding to the number of pins on the "stamp." The "stamp" is immersed with the pins in alcohol in a Petri dish and heated over an alcohol lamp. It is then dipped into the wells with phage and an impression made on the surface of 0.7% soft agar with the culture under study. After the drops of phage dry, the dishes are incubated for 18 hours. A laboratory technician should be able to apply phage to 300 to 400 dishes in 3 hours.

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Epidemiology

USSR

ZAIROV, K. S., CHICHENIN, P. I., MUKHAMEDOV, S. M., PULATOV, YA. G., II-GVAN-KHYA, IKHEVATOVA, M. V., ARTYKOV, K. A., and SEREDIN, V. G.

"Methods and Tactics to be Applied in Detecting Local Foci of Cholera"

Tashkent, Meditsinskiy Zhurnal Uzbekistana, No 12, Dec 71, pp 3-7

Abstract: With the appearance of the El Tor variety of cholera, endemic foci of this disease developed in a number of countries in which classical cholera could not take root. The reason for this is the capacity of El Tor vibrios to survive for prolonged periods of time in the human organism and the environment. Local cholera foci came developed in which the circulation of the agent is sustained by a chain of atypical diseases, prolonged carrier state of the vibrios in humans, and possibly transmission of the infection by aquatic organisms. Discovery of the carrier state among persons with diseases of the bile secretion system led A. G. Nikonov (1960) to the conclusion that cholera vibrios may be retained for a long time in the gall bladder. He proved the correctness of this conclusion experimentally. During the recent cholera pandemic, vibrios were detected more frequently in the gall bladder. In cases of El Tor cholera, which is caused by hemolytic variations of the microorganism, it is advisable to determine the titer of antibodies with reference to the hemolytic group found in the supernatant liquid of

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ZAIROV, K. S., et al., Meditsinskiy Zhurnal Uzbekistana, No 12, Dec 71, pp 3-7

of meat broth cultures. The complement fixation reaction, which has been used as an immunological test for cholera in Russia since 1909, has been forgotten for inadequate reasons. The very small amount of cholera vibrios present in the stool of cholera patients and vibrio carriers can be detected by means of suspended antibodies, among which alizarin, indanthrone, and anthragallo antibodies are used most frequently. Concentration of cholera vibrios on membrane filters follows by supplementary cultivation (Ye. V. Chibrikova, 1960, 1962) made it possible to increase greatly the sensitivity of the immunofluorescence method of detection. A. K. Adanov et al (1969) isolated El Tro vibrios from fish caught in rivers of Turkmenia. According to results obtained by the authors of this article, cholera vibrios may be detected in the intestine of fish even when tests on the water in which the fish have been caught are negative. Testing of fish is therefore recommended as a method for the detection of latent foci of cholera in bodies of water.

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SEREDIN, V. G., CHICHENIN, P. I., MUHAMMEDOV, S. M., and INSHEVATOVA, M. V.

"The Problem of the El Tor Vibrios"

Tashkent, Meditsinskiy Zhurnal Uzbekistana, No 1, 1970, pp 3-7

Abstract: In recent years, cholera has been caused mainly by the El Tro vibrio. It was first discovered in pilgrims toward the end of the 19th Century in the El Tor Quarantine Station on the Sinai Peninsula. In 1905, when mortality from dysentery increased among pilgrims quarantined at the El Tor Station, Gotschild was sent there to investigate the possible presence of cholera vibrios among the pilgrims. From 107 cadavers, he isolated 33 vibrio strains, identifying six as cholera vibrios, since they were identical with cholera vibrios in all aspects and were agglutinated by anticholera serum. However, both groups were able to produce true hemolysis in goat and sheep erythrocytes. They contained a hemotoxin and exotoxin which are characteristic of the non-cholera Nasik vibrios. Furthermore, their antitoxic sera caused cross neutralization but no cross agglutination. For these reasons, the El Tor vibrios were not regarded

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USSR

SEREDIN, V. G., et al., Tashkent, Meditsinskiy Zhurnal Uzbekistana, No 1, 1970, pp 3-7

as cholera-producing. However, most Russian scientists, especially those who worked during the 1908-1909 cholera epidemic in Petersburg, were of a different opinion. They found that with diminishing enzymatic activity, the strains would lose their hemolytic ability. By 1938, the number of identified strains of El Tor vibrios increased to 50. Doorenbos considered them to be cholera-producing vibrios affected by phages. The first cholera outbreak caused by EL Tor vibrios was recorded in 1937 on Sulawesi Island, and the second outbreak, caused by hemolytic vibrios, was recorded in 1945 in India. This gave rise to a polemic about the exact definition of true cholera vibrios, and was followed by extensive investigations of various strains with regard to their morphological, biological, biochemical, serological, and cultural properties. Numerous tests were developed which revealed, among other things, that the hemolytic ability of the vibrios was variable and perishable. As a result, the El Tor vibrios were divided into three groups: constantly hemolytic, constantly nonhemolytic, and weakly hemolytic, even though hemolysis is not essential in the pathogenesis of cholera. In 1964, 2/3

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USSR

SEREDIN, V. G., et al., Tashkent, Meditsinskiy Zhurnal Uzbekistana, no 1, 1970, pp 3-7

Nobechi isolated strains of the classic cholera vibrios, which were resistant to Mukerjee phage IV. These strains were called intermediate. It was concluded that El Tor vibrios, both pathogenic and non-pathogenic, also occupy an intermediate phylogenetic position and are the predecessors of classical cholera strains.

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USSR

UDC 621.396.69:621.316.8(088.8)

ANDREYEV, Yu. N., KVASOV, V. I., SEREDINA, N. N., LEONT'YEV, A. K., CHIZHIKOVA, T. F.

"A Device for Automatically Sorting Resistors into Groups by Ratings"

USSR Author's Certificate No 258427, Filed 18 Aug 65, Published 14 Apr 70 (from RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10V315 P)

Translation: The proposed device contains a drum type cassette with accumulators arranged in several levels, a loading vibration hopper, transporting mechanisms, guide channels with rotating gates, a measuring unit and an actuating electromagnet. As a distinguishing feature of the patent, the work productivity of the device is increased and sorting precision is improved by utilizing a unit for storing combinations of resistance measurements connected to the transporter drive. This unit is made in the form of a hollow cylinder with movable pins around the periphery in several rows. These pins are connected to electromagnets by means of levers. The electromagnets are connected to the measurement unit and are mounted on the column of a master unit located inside the hollow cylinder. The contacts controlled by the movable pins are connected in the control circuit of the actuating electromagnet.

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USSR

UDC 616.988.5-06:616.981.25-092.9

SEREDINA, V. I., Khabarovsk Medical Institute

"Associated Adenostaphylococcal Infection in *Cricetulus triton*"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 10, 1971,  
pp 142-145

Abstract: Intranasal injection of short-tailed Asiatic hamsters (*Cricetulus triton*) with adenovirus followed 72 hours later by intranasal injection of Staphylococci induced an infection that followed a much more severe course than that resulting from the injection of either microorganism alone. The synergistic action of the viral and bacterial toxins was manifested by pronounced pathohistological changes in the lungs (development of pneumonia of the confluent type, hemorrhages, extensive necrosis) and by larger numbers and longer persistence of Staphylococci in the lungs as compared with controls. It was noted that the above phenomena are similar to those observed in associated infections with influenza virus and a variety of bacteria.

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Acc. Nr.:

AR0052990

Ref. Code: UR 0000

JPRS 49937

Fog Formation at Alma-Ata Airport

(Abstract: "Some Characteristics of Fog Formation at Alma-Ata Airport and Possibilities for its Prediction," by Ye. A. Seredkina and V. I. Gordyunin; Alma-Ata, Trudy Kazakhskogo Nauchno-Issledovatel'skogo Gidrometeorologicheskogo Instituta, No 38, 1969, pp 98-113;

/From: Moscow, Referativnyy Zhurnal, Geofizika, Svodnyy Tom, No 1, 1970, IB3567

This paper contains data for 1965-1967 on the recurrence of fogs at Alma-Ata airport by months and time of day. There are two daily frequency maxima. There is a correlation between the development of fogs and wind velocity and its direction, humidity distribution in the surface layer and at higher levels, and air temperature in the surface layer. The authors determined the duration of fogs and the probability of their appearance at definite time intervals. They define the synoptic situations under which fogs appear (at Alma-Ata airport fogs occur most frequently when there are stationary warm fronts). The article is accompanied by graphs showing the relationship between air temperature four hours before a fog and temperature at the time of its formation, the relationship between the temperature

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of fog dissipation and temperature at the time of its formation and the relationship between the time of fog dissipation and the time of wind shifting during a fog. Bibliography of 8 items.

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USSR

UDC 621.317.382.023

SEREDNIY, V. P., ZHILKOV, V. S., KUKUSH, V. D.

"Model Ponderomotive Device for Reproduction of a Unit of Superhigh Frequency Power in the 8 Millimeter Wave Band"

Radiotekhnika. Resp. Mezhd. temat. nauch.-tekhn. sb. (Radio Engineering. Republic Interdepartmental Thematic Scientific and Technical Collection), No 19, 1971, pp 136-140 (from RZh-Radiotekhnika, No 1, 1972, Abstract No 1A412)

Translation: A model ponderomotive device for measuring power in the 8-mm radio wave band is described, the basic technical characteristics of which are the following: measurable power limit 0.1-1 watt, operating frequency 39.45 gigahertz, measurement error with well-matched load  $\pm 1.2\%$ . A study was made of the characteristic features of absolute calibration of ponderomotive wattmeters for the millimeter band, and the possibility of increasing the sensitivity of the instruments without worsening their input characteristics was demonstrated. It was concluded that the creation of a model device comparable with respect to accuracy to the calorimetric high-discharge wattmeters is possible. There are 2 illustrations and a 5-entry bibliography.

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USSR

BALAKIN, V. YE., BUKIN, A. D., KURDADZE, L. M., ONUCHIN, A. P., PAKHTUSOVA, YE. V., SEREDNYAKOV, S. I., SIDOROV, V. A., and KHABAKHPASHEV, A. G., Institute of Nuclear Physics of the Siberian Department of the Academy of Sciences USSR

"Observation of Double  $e^+e^-$ -Pair Production"

Moscow, Yadernaya Fizika, Vol 16, No 4, 1972, pp 729-733

Abstract: The article describes results of the first experiments (in 1969 and 1970) on the observation of the process of the double pair production of the electron-positron pairs  $e^+e^- \rightarrow e^+e^- + e^+e^-$  on a VEPP-2 positron-electron accelerator ring. Papers on this work were presented in 1971 at international conferences in Amsterdam and Cornell. The cross-section of the process for large angles of emission for the produced particles was measured. The experimental results were found to be in agreement with the theoretical calculations of V. N. BAYYER and V. S. FADIN.

The authors thank V. N. BAYYER and V. S. FADIN for discussions.

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USSR.

UDC 681.325.65

BAZILEVICH, R. P., ZAMORA, Ye. F., KOTLYAROV, A. V., SAVENKO, N. M.,  
SEREDYUK, A. I., and SHISHKA, A. V.

"A Logic Device"

USSR Author's Certificate No 276525, Filed 29 Mar 68, Published 19 Nov 70  
(from Referativnyy Zhurnal -- Avtomatika, Telemekhanika, i Vychislitel'naya  
Tekhnika, No 8, 1971, Abstract No 8B132 P)

Translation: A logic device is proposed. In order to determine the parity of permutations, the device will contain: a diode matrix which transmits signals in one direction along all columns and along all rows; programing switches for forming sequences of time-separated interrogation pulses (the inputs of the switches are connected to the outputs of a multiphase multi-vibrator, and the outputs of the switches are connected to the cathodes of the diodes of the matrix); programing switches whose inputs are connected to the cathodes of the diodes of the matrix and whose outputs are connected to the inputs of the corresponding parity flip-flops; dual programing switches for forming sequences of time-separated interrogation pulses and for feeding the appropriate pulses to the appropriate inputs of the parity flip-flops concerned with the number of inversions between individual

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USSR /

BAZILEVICH, R. P., et al., USSR Author's Certificate No 276525, Filed 29 Mar 68, Published 19 Nov 70 (from Referativnyy Zhurnal — Avtomatika, Telemekhanika, i Vychislitel'naya Tekhnika, No 8, 1971, Abstract No 8B132 P)

elements of the permutations. The device will also contain an indications flip-flop which is connected with the positive-sign indicator and the negative-sign indicator. The first input of this flip-flop is connected to the outputs of the parity flip-flops, and the second input is connected to the output of the multiphase multivibrator.

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- 31 -

1/2 015

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--EFFICIENCY OF TREATMENT OF PATIENTS WITH CHRONIC GASTRIC DISEASES

-U-

AUTHOR--(02)-VAKALYUK, P.M., SEREDYUK, N.N.

COUNTRY OF INFO--USSR

SOURCE--VRACHEBNOYE DELO, 1970, NR 5, PP 56-58

DATE PUBLISHED--70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DIGESTIVE SYSTEM DISEASE, MEDICAL DIAGNOSIS, MINERAL, WATER, MUD

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3001/1945

STEP NO--UR/0475/70/000/005/0056/0058

CIRC ACCESSION NO--AP0127346

UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0127346

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IT IS SUGGESTED THAT A STUDY OF THE DYNAMICS OF PARTIAL SECRETION IN CHRONIC DISEASES OF THE STOMACH ARE OF SIGNIFICANCE IN THE DIAGNOSIS AND EVALUATION OF THE EFFICIENCY OF TREATMENT. DETAILS ARE PRESENTED OF USING EXAMINATION OF THE DYNAMICS OF PARTIAL SECRETION IN 94 PATIENTS RECEIVING TREATMENT IN CONDITIONS OF THE MORSHIN HEALTH RESORT. MORSHIN MINERAL WATER, MINERAL BATHS AND MUD APPLICATIONS RESULTED IN A SIGNIFICANT IMPROVEMENT OF THE PATIENTS' CONDITION. FACILITY: KAFEDRA FAKUL'TETSKOY TERAPII, IVANO-FRANKOYSKOGO MEDITSINSKOGO INSTITUTA.

UNCLASSIFIED

L/2 019 UNCLASSIFIED PROCESSING DATE--11SEP70  
TITLE--SOME PROBLEMS OF COMPLEX TREATMENT OF PATIENTS WITH ULCER DISEASE  
AT THE MORSHIN HEALTH RESORT -U-  
AUTHOR--BORIN, YA.V., DENISYUK, V.G., SEREDYUK, N.N.  
COUNTRY OF INFO--USSR  
SOURCE--VRACHEBNOYE DELO, 1970, NR 3, PP 39-41  
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--GASTROINTESTINAL SYSTEM, DIGESTIVE DISEASE, DUODENUM, LESION,  
MINERAL, WATER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1986/0951

STEP NO--UR/0475/70/000/003/0032/0041

CIRC ACCESSION NO--AP0102890

UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0102890

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MORSHIN MINERAL WATER COMPLEXLY USED WITH OTHER HEALTH RESORT FACTORS HAD A FAVOURABLE EFFECT ON THE COURSE OF GASTRIC AND DUODENAL ULCER IN THE MAJORITY OF PATIENTS. HYPOTONIC SOLUTIONS OF THIS MINERAL WATER EXERT AN INHIBITORY EFFECT ON GASTRIC SECRETION. MORSHIN MINERAL WATER IS CONTRAINDICTED DURING EXACERBATIONS OF ULCER DISEASE, SHARP STIMULATIONS OF GASTRIC SECRETORY ACTIVITY AND DISORDERS OF THE MOTOR EMPTYING ACTIVITY (PYLOROSPASM, PYLOROSTENOSIS.

UNCLASSIFIED

USSR

BUDNIK, A. P., RABOTNOV, N. S., SEREGIN, A. A., Power Engineering Physics Institute

"Levels of Even-Even Nuclei With High Moments in the Phenomenological Collective Model of the Nucleus"

Moscow, Yadernaya Fizika, Vol 15, No 3, Mar 72, pp 470-473

Abstract: The energies of levels of even-even nuclei are calculated for angular momenta up to and including  $J=12$  within the framework of the phenomenological collective model of the atomic nucleus with potential energy depending on the deformation variables  $\beta$  and  $\gamma$ . It was found that the relative energies of the levels of the base rotational band for the given class of potentials are always greater than for a spherical nucleus. The levels of the spherical nucleus which correspond to the highest moment  $J=2N$  for the principal quantum number  $N=2n+\lambda$  make a transition to levels of the base rotational band with  $E(J) \sim J(J+1)$  as deformation appears and increases. The theoretically permissible region of values of  $\epsilon_1(J)$  with a given  $\epsilon_1(4)$  is fairly narrow for  $\epsilon_1(4) \leq 2.5$ , and the relation between  $\epsilon_1(J)$  and  $\epsilon_1(4)$  is linear with a fair degree of accuracy; then there is a sharp widening of

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USSR

BUDNIK, A. P. et al., Yadernaya Fizika, Mar 72, pp 470-473

this region which is more pronounced the larger the angular momentum. A comparison with experimental data shows satisfactory agreement. The authors thank V. V. Bulychev and T. I. Stavinskaya for assistance with the computer calculations. One figure, bibliography of twelve titles.

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USSR

UDC 539.4

STEPNOV, M. N., GIATSINTOV, YE. V., SEREGIN, A. S., (Moscow),  
Moscow Aviation Technological Institute

"A Statistical Analysis of the Fatigue Characteristics of Light  
Alloys for a Probabilistic Estimate of the Strength of Aircraft  
Structural Elements"

Kiev, Problemy Prochnosti, No 10, 1970, pp 38-42

Abstract: An analysis is made of the fatigue characteristics  
of light alloys, obtained in the testing of laboratory speci-  
mens; consideration is given to the possibility of using the  
fatigue characteristics for estimating the strength of parts  
with account taken of the statistical similitude criterion of  
fatigue destruction. 6 figures, 4 bibliographic entries.

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USSR

UDC: [621.392:538.4]:662.215.2(088.8)

PAVLOVSKIY, A. I., LYUDAYEV, R. Z., YURYZHEV, A. S., BOYKO, B. A., SEREGIN, A. S.

"A Magnetoexplosive Generator"

USSR Author's Certificate No 243103, filed 28 Nov 67, published 10 Mar 70  
(from RZh-Elektrotehnika i Energetika, No 10, Oct 70, Abstract No 10A148 P)

Translation: This Author's Certificate introduces a magnetoexplosive generator for converting the energy of an explosive material to electromagnetic energy. The device contains a tube filled with an explosive material and a coaxially arranged helix. The tube and helix are connected at one end to a heat source, and at the other to a toroidal inductive cavity. To increase the coefficient of energy conversion, the generator tube is made in the form of a truncated cone with the wider base toward the inductive cavity. The diameter of the wide base, the diameter of the narrow base, and the height of the cone are in the ratio of 2:1:4. One illustration.

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1/2 021

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--CONCENTRATION OF FREE AMINO ACIDS IN THE BLOOD OF PATIENTS WITH  
UTERINE CANCER DURING SURGICAL AND RADIATION TREATMENT -U-

AUTHOR--(05)-TYUTIN, L.A., NIKITINA, M.P., SEREGIN, M.S., TYUTINA, YE.M.,  
UDALOVA, I.YE.

COUNTRY OF INFO--USSR

SOURCE--VOP. ONKOL. 1970, 16(2), 29-33

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--AMINO ACID, REPRODUCTIVE SYSTEM, CANCER, SURGERY,  
RADIOTHERAPY, PAPER CHROMATOGRAPHY, ENZYME ACTIVITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/0251

STEP NO--UR/0506/70/016/002/0029/0033

CIRC ACCESSION NO--AP0120941

UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0120941

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CONC. OF FREE AMINO ACIDS WAS INVESTIGATED BY PAPER CHROMATOG. IN THE BLOOD OF WOMEN WITH UTERINE MALIGNANCY, AFTER SURGERY OR RADIOTHERAPY. IN CASES OF MALIGNANCY, A RISE IN THE LEVEL OF CYSTINE, SERINE, GLYCINE, TRYPTOPHAN AND PHENYLALANINE WAS RECORDED, WITH A FALL IN HISTIDINE, GLUTAMINE, AND GLUTAMIC ACID. AFTER DRASTIC SURGERY, LEVELS RETURNED TO NORMAL BY 3 WEEKS. THE INCREASES WERE GREATER IN ADVANCED CASES. AFTER RADIOTHERAPY, THE VALUES TEND TO BE HIGHER, AND MAY BE DUE TO CHANGED ACTIVITY OF CERTAIN ENZYME SYSTEMS. FACILITY: S. M. KIROV MIL. ACAD. MED. SCI., LENINGRAD, USSR.

UNCLASSIFIED

Radiation Chemistry

USSR

UDC 535.34.083.2:538.56

BONDAREVSKIY, S. I., MURIN, A. N., and SEREGIN, P. P., Leningrad State University, Department of Radiochemistry, Institute of Semiconductors, USSR Academy of Sciences

"The Mössbauer Effect in the Study of the Chemical Effects of Nuclear Transformations"

Moscow, Uspekhi Khimii, Vol XL, No 1, Jan 1971, pp 95-116

Abstract: Up to now, stabilization of recoil atoms has been studied largely by observing solutions of irradiated samples. While useful in such immediate practical concerns as isotope enrichment, this method does nothing to advance the study of recoil atoms within solid bodies, since no definite conclusions can be reached on the relative effects exerted by the process of solution. The authors review important studies touching on this problem written during the sixties and through 1970; and summarize what is known of the Mössbauer effect as the basis for a new method of solid-state research.

A summary of basic facts, definitions and conceptions concerning the Mössbauer effect is given first. This is followed by the first main section of the survey, in which are considered the effects which K-capture, isomeric  
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USSR

BONDAREVSKIY, S. I., et al., Uspekhi Khimii, Vol XL, No 1, Jan 1971, pp 95-116

transition and  $\beta$ -decay have on the forms which stabilization of the Mössbauer may assume; lifetimes of metastable Mössbauer atoms and stabilization forms are discussed in detail. The second main section deals with the processes of energy loss from recoil atoms in solid bodies; here are considered, first, the application of the "Mössbauer method" to such energy losses in both metallic and nonmetallic targets, particularly iron and its compounds, and, second, present-day concepts of such energy losses. The third section is an analysis of the present status of the "solid-solution" problem, with stress on the recent (1969-1970) contributions of Soviet investigators.

The authors conclude that the Mössbauer (nuclear gamma-resonance) method is a highly significant new tool for solid-state physics which offers the following advantages: 1) unified and exactly reproducible radiation conditions, not obtainable in solution-based methods, 2) very wide range of observation temperatures up to about 1,000°K, and 3) observation times ranging from  $10^{-7}$  down to  $10^{-9}$  sec sufficiently short to avoid the effects of annealing phenomena, which are often intense at ordinary temperatures. The 151-item bibliography includes about 25 works of Soviet origin.

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- 47 -

173 025  
UNCLASSIFIED  
TITLE--MOSSBAUER EFFECT IN AN ARSENIC, SELENIUM, TIN SEMICONDUCTOR SYSTEM  
-U-  
AUTHOR--(04)-BKRISOVA, Z.U., VASILYEV, L.N., SEREGIN, P.P., SHIPATOV, V.T.  
COUNTRY OF INFO--USSR  
SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(3), 533-6  
DATE PUBLISHED--70  
SUBJECT AREAS--PHYSICS  
TOPIC TAGS--ARSENIC, SELENIUM, TIN, GLASS COMPOSITION, VACUUM MELTING,  
SEMICONDUCTOR CRYSTAL, MOSSBAUER SPECTRUM  
CENTRCL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1996/1794  
STEP NO--UR/0449/70/004/003/0533/0536  
CIRC ACCESSION NO--AP0118763  
UNCLASSIFIED



2/3 025

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0118763

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. VACUUM MELTING WAS USED TO SYNTHESIZE A NO. OF AS, SE, SN GLASSES, HAVING THE COMPN. AS SUB1.0 SE SUBX SN SUBY, WHERE X EQUALS 0.8-9.0 AND GAMMA EQUALS 0.015-2.30. THE PRIME119 SN NUCLEUS WAS THE ONE UTILIZED TO DET. ISOMER SHIFT AND QUADRUPOLE SPLITTING BY MOESSBAUER SPECTROSCOPY. TO ACT AS STDS., ALL OF THE KNOWN BINARY COMPS. BETWEEN SN PLUS AS AND SE WERE SYNTHESIZED SN SUB6 AS, SN SUB3 AS SUB2, SN SUB4 AS SUB3, SNAS, SN SUB3 AS SUB4, SN SUB2 AS SUB3, SNSE, SNSE SUB2, AND SN SUB2 SE SUB3). THE LAST COMPO. MAY NOT EXIST AS A SEP. HOIETY, SINCE ITS SPECTRUM IS PRECISELY THE SAME AS THE SUPERIMPOSED SPECTRA OF SNSE AND SNSE SUB2. THE TERNARY ALLOYS OF AS, SE, AND SN ARE NOT SPECIFIC COMPS. WITH UNIQUE STRUCTURES. IN THE VITREOUS AREAS OF THE ALLOY, ONLY SN(IV) WAS FOUND. IN SUCH REGIONS, EVEN WHEN ALL OF THE SN WAS THE 119 ISOMER, NO CHARACTERISTIC SN(II) LINES WERE FOUND IN THE SPECTRUM. FOR THE SERIES OF ALLOYS CHARACTERIZED BY ASSE SUB0.8 SN SUBY, ASSE SUB1.0 SN SUBY, AND ASSE SUB1.5 SN SUBY, BOTH SN(II) AND SN(IV) LINES WERE FOUND IN THE SPECTRUM TAKEN AT THE CRYST. REGIONS. AS THE SN CONTENT OF THESE REGIONS WAS INCREASED, THE SN(IV) LINES TEND TO DISAPPEAR AND AS THE PERCENT SN IS FURTHER INCREASED, IN ADDN. TO THE SPECTRUM CORRESPONDING TO CRYST. SNSE, FURTHER LINE CORRESPONDING TO A SN-AS COMPO. BEGIN TO APPEAR. IN CRYST. GLASS ALLOYS OF THE ENRICHED SE TYPE, SUCH AS ASSE SUB2.5 SN SUBY, ASSE SUB4.0 SN SUBY, AND ASSE SUB9.0 SN SUBY, ONLY SN(IV) LINES ARE FOUND IN THE MOESSBAUER SPECTRUM WITH THE ISOMER SHIFT CORRESPONDING TO CRYST. SNSE SUB2.

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3/3 025

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0118763

ABSTRACT/EXTRACT--BUT, IN A POLYCRYST. ALLOY, SUCH AS ASSE SUB2.5 SN SUB1.5, SN(III) LINES ARE FOUND WITH AN ISOMER SHIFT CHARACTERISTIC FOR CRYST. SNSE. SPECIFIC GLASS COMPS. WERE ANNEALED TO PROMOTE A GREATER DEGREE OF CRYSTALLINITY. ASSE SUB2.5 SN SUB0.4 GLASS AFTER BEING ANNEALED FOR 1500 HR AT 200DEGREES GAVE RISE TO THE CHARACTERISTIC SNSE SUB2 SPECTRUM, WHILE ASSE SUB1.5 SN SUB0.1, SUBJECTED TO AN ANNEAL AT 250DEGREES FOR 750 HR GAVE RISE TO THE SNSE SPECTRUM. X RAY INVESTIGATION OF THESE SAMPLES CONFIRMED THE RESULTS OF THE MOESSBAUER STUDY. IN CHALCOGENIDE GLASSES OF THIS SYSTEM, SN IS TETRAVALENT BONDED ONLY TO SE AND THE STRUCTURE IS ROUGHLY TETRAGONAL WITH A COORDINATION NO. OF 6. ALTHOUGH THERE WAS NO UNIQUE STRUCTURE IN THESE TERNARY COMPS. A UNIT STRUCTURE, SE SUB3 SN,SE,ASSE SUB2, DOES EXIST IN THE VITREOUS PHASE TO SOME DEGREE.

UNCLASSIFIED

1/2 029  
TITLE--MOSSBAUER STUDY OF THE AFTER EFFECTS OF NUCLEAR REACTIONS IN  
SOLIDS -U-  
AUTHOR--(03)--MURIN, A.N., BONDAREVSKIY, S.I., SEREGIN, P.P.  
COUNTRY OF INFO--USSR  
SOURCE--FIZ. TVERG. TELA 1970, 12(4), 1095-8  
DATE PUBLISHED-----70  
SUBJECT AREAS--PHYSICS  
TOPIC TAGS--MOSSBAUER EFFECT, NEUTRON IRRADIATION, PHOTON EMISSION, TIN  
OXIDE, INELASTIC SCATTERING  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--3005/1625  
CIRC ACCESSION NO--AP0133532  
STEP NO--UR/0181/70/012/004/1095/1098  
UNCLASSIFIED

2/2

029

CIRC ACCESSION NO--AP0133532

UNCLASSIFIED

PROCESSING DATE--20NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BY THE MOESSBAUER METHOD STUDY WAS CARRIED OUT OF CONSEQUENCES OF THE REACTION  $Zn(\gamma)$  IN SNO IN THE CONDITIONS OF REACTOR IRRADIATION. THE RESULTS OF THE EXPT. ARE USED IN THE DISCUSSION OF THE MECHANISM OF STABILIZATION OF RECOIL ATOMS IN A SOLID. IN THE COURSE OF NUCLEAR REACTIONS CHARACTERIZED BY A HIGH ENERGY OF RECOIL THE MOESSBAUER METHOD SHOWS THAT A CONSIDERABLE NO. OF RECOIL ATOMS ARE RETAINED IN THE LATTICE POINTS. THIS IS EXPLAINED BY DEVIATION OF THE CORRELATION BETWEEN IMPULSE AND THE RECOIL ENERGY. FACILITY: LENINGRAD. GOS. UNIV. IN. ZHDANOVA, LENINGRAD, USSR.

UNCLASSIFIED

1/2 015  
TITLE--STUDY OF COMPOUNDS OF TIN WITH GROUP IV ELEMENTS BY THE NUCLEAR  
GAMMA RESONANCE METHOD -U-  
AUTHOR-(04)-PEREPECH, K.V., SEREGIN, P.P., SHIPATOV, V.T., BOLTAKS, B.I.  
COUNTRY OF INFO--USSR  
SOURCE--IZVEST. AKAD. NAUK SSSR, NEORG. MATERIALY, APR. 1970, 6, (4),  
818-819  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS  
TOPIC TAGS--GAMMA RADIATION, TIN COMPOUND, CHEMICAL BONDING, SPECTROSCOPIC  
ANALYSIS, SELENIDE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--3003/1448  
STEP NO--UR/0363/70/006/004/0818/0819  
CIRC ACCESSION NO--AP0130381  
UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0130381

ABSTRACT/EXTRACT--(U) GP-C-

ABSTRACT. THE NUCLEAR GAMMA RESONANCE SPECTRA OF A NUMBER OF COMPOUNDS OF SN WITH GROUP IV ELEMENTS (SNSE, SNTE, ETC.) WERE STUDIED AND INTERPRETED IN TERMS OF THE CHEMICAL SHIFT AND QUADRUPOLE SPLITTING OF THE CORRESPONDING MATERIALS. THUS IN THE CASE OF THE DICHALCOGENIDES THE CHEMICAL SHIFT DIMINISHED WITH INCREASING IONICITY OF THE CHEMICAL BOND, AS PREDICTED BY THEORY. NO TRACE OF THE COMPOUND SN SUB2 SE SUB3 WAS FOUND, ONLY A SUPERPOSITION OF THE SPECTRA OF SNSE AND SNSE SUB2.

UNCLASSIFIED

1/2 012  
UNCLASSIFIED  
TITLE--USE OF THE MOESSBAUER EFFECT AND EPR IN STUDYING THE ACTION OF  
PROTON IRRADIATION ON IRON OXALATES -U-  
AUTHOR--(04)-YEREMIN, L.P., SHIPATOV, V.T., TARASOV, V.A., SEREGIN, P.P.  
COUNTRY OF INFO--USSR  
SOURCE--KHIM. VYS. ENERG. 1970, 4(2), 185-6  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--MOSSBAUER EFFECT, EPR, IRON COMPOUND, OXALATE, PROTON  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1996/0856  
CIRC ACCESSION NO--AP0118032  
STEP NO--UR/0456/70/004/002/0185/0186  
UNCLASSIFIED

2/2 012 UNCLASSIFIED PROCESSING DATE--16OCT70  
 CIRC ACCESSION NO--AP0118032  
 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF IRRADN OF FE  
 OXALATES BY 5-MEV PROTONS WAS STUDIED. THE DOSE VARIED (0.7-7) TIMES  
 10 PRIME22 EV-G. THE MOESSBAUER EFFECT WAS STUDIED AT 295DEGREESK.  
 WITH INCREASING DOSE THE FE(III) OXALATE (I) CHANGED COLOR FROM GREEN TO  
 YELLOW. THE INTENSITY OF THE LINES CORRESPONDING TO THE QUADRUPOLE  
 SPLITTING OF FE(II) INCREASED IN THE MOESSBAUER SPECTRA. AT 7 TIMES 10  
 PRIME22 EV-G ONLY FE PRIME2 POSITIVE IONS ARE PRESENT. COMPARISON OF  
 THE I SPECTRA WITH THAT OF FE(II) OXALATE (II) THAT WAS IRRADIATED TO 7  
 TIMES 10 PRIME22 EV-G SHOWED THAT THE CHEM. SHIFT AND THE QUADRUPOLE  
 APLITTING OF BOTH SPECTRA ARE SIMILAR AND THAT THE IRRADN. BY PROTONS  
 FORMS II. THE CONVERSION IS DUE TO THE STRONG REDUCING ACTION OF C SUB2  
 O SUB4 PRIME2 NEGATIVE ANIONS SURROUNDING THE FE(III) ION. THE DECREASE  
 IN THE EFFECT OBSD. IN THE IRRADN. OF I WITH UP TO 7 TIMES 10 PRIME22  
 EV-G IS DUE TO THE DESTRUCTION OF THE CRYSTAL STRUCTURE OF INITIAL I AND  
 THE FORMATION OF A POROUS STRUCTURE OF II CHARACTERIZED BY A LOWER  
 MOESSBAUER COEFF. FACILITY: NAUCH-ISSLED. KHIM. INST.,  
 LENINGRAD. GOS. UNIV. IM. ZHDANOVA, LENINGRAD, USSR.

UNCLASSIFIED



1/2 028

UNCLASSIFIED

PROCESSING DATE--16OCT70

TITLE--MOESSBAUER EFFECT IN TIN IMPURITY ATOMS IN SILVER HALIDES -U-  
AUTHOR--(04)-YEFIMOV, A.A., BONDAREVSKIY, S.I., SEREGIN, P.P., SHIPATOV,  
V.T.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TVERD. TELA 1970, 12(3), 949-50

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--MOSSBAUER EFFECT, SILVER COMPOUND, HALIDE, IODIDE, CHLORIDE,  
DEBYE TEMPERATURE, EMISSION SPECTRUM, SPECTROSCOPY, TIN, METAL IMPURITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1995/1288

STEP NO--UR/0181/70/012/003/0949/0950

CIRC ACCESSION NO--AP0116750

UNCLASSIFIED

2/2 028

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0116750  
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE STATE OF SN ATOMS WAS STUDIED IN AGCL AND AGI BY MOESSBAUER EMISSION SPECTROSCOPY USING PRIME119 SN PRIMEM. SN WAS INTRODUCED BY MELTING THE ABOVE SALTS WITH METALLIC PRIME118 SN THEN IRRADIATING WITH AN INTEGRAL FLUX OF THERMAL NEUTRONS (2 TIMES 10 PRIME21 N-CM PRIME2). THE SPECIMENS OBTAINED WERE MOESSBAUER SOURCES AND CA STANNATE WAS THE ABSORBER. CONCN. OF SN DID NOT EXCEED 5 TIMES 10 PRIME18 -CC. THE MAGNITUDE OF THE CHEM. SHIFT OF PRIME119 SN PRIMEM IN AGCL AND AGI CORRESPONDS TO THE PRESENCE OF ONLY SN PRIME4POSITIVE IONS. IT CAN BE ASSUMED THAT SN PRIME4POSITIVE ION IS IN INTERSTIAL LOCATIONS AND SURROUNDED BY 4 CATIONIC VACANCIES. ANOTHER POSSIBILITY IS THAT SN PRIME4POSITIVE ION IS LOCATED AT CATIONIC SITES AND FORMS ASSOCNS. WITH 3 CATIONIC VACANCIES. THIS IS CONFIRMED BY THE BROADENING OF THE MOESSBAUER SPECTRA. THE EFFECTIVE DEBYE TEMPS. WERE CALCD. FROM THE MOESSBAUER COEFF.

UNCLASSIFIED

USSR

UDC 669.755'822

SEREGIN, V. M., POYARKOV, A. M., LEBEDEV, V. A., NICHKOV, I. F., and  
PASPOPIN, S. P.

"Thermodynamic Properties of Uranium-Antimony Alloys"

Moscow, Atomnaya Energiya, Vol 32, No 5, May 72, pp 419-421

Abstract: The method of electromotive forces was applied in a study of the thermodynamic properties of liquid solutions and the  $USb_2$  compound and for a more exact definition of the dissolution limit of U in liquid Sb. The results are discussed of experiments in which the emf between U and its two-phase ( $L+USb_2$ ) alloys was measured. The thermodynamic characteristics of U in the  $USb_2$  compound were calculated for 1000°K from the equation  $E = 0.820 - 0.26 \cdot 10^{-3}T \pm 0.003$  v, which was found to characterize the linear nature of the emf temperature dependence. Tabulated data show the activity coefficients of U and its solubility in liquid Sb which were calculated from given formulas. Calculated values of U solubility limits in Sb are compared with data in other publications. Three tables, five formulas, five bibliographic references.

1/1

Inorganic Compounds

USSR

UDC 669.8715'822 + 541.134

LEBEDEV, V. A., SEREGIN, V. M., POYARKOV, A. M., NICHKOV, I. F., and  
RASPOPIN, S. P., Ural Polytechnical Institute Imeni S. M. Kirov,  
Sverdlovsk

"Thermodynamic Properties of Liquid Alloys in the System Uranium-Gallium"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 47, No 3, Mar 73, pp 712-714

Abstract: Thermodynamic properties of the  $UGa_3$  compound and liquid solutions in equilibrium with this compound have been investigated by means of e.d.s. method in temperature interval 423-811°C. The data agreed well with literature values. Existence of two modifications of  $UGa_3$  has been proposed with characteristic  $\Delta H$  and  $\Delta S$  values, constant in a wide range of temperatures. The high temperature form of  $UGa_3$  is more stable and ordered.

1/1